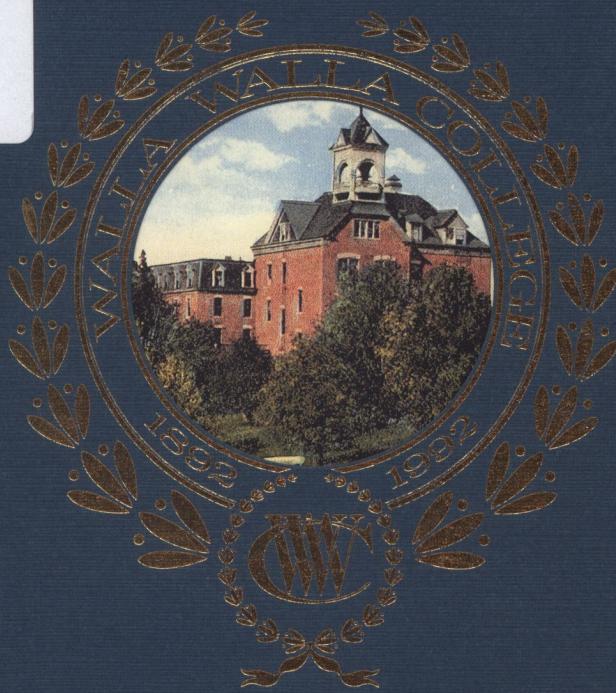


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BULLETIN
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WALLA WALLA COLLEGE
COLLEGE PLACE, WASHINGTON

UNDERGRADUATE
BULLETIN
1991 - 1992



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**BULLETIN
WALLA WALLA COLLEGE
VOL. 100, NO. 2
SEPT. 1991**

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Bulletins	
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Transcripts	
Transcript Evaluation	
Transfer Student Information	
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Financial Aid	
Loans and Grants	
Financial Planning	
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Automobile Registration	
Off-Campus Housing	
Student Life	
COLLEGE ADDRESS AND TELEPHONE	Walla Walla College 204 S College Avenue College Place, WA 99324-1198
General Telephone Number	509/527-2615
Toll Free (Continental U.S.A.)	1-800-541-8900
PORTLAND CAMPUS	10355 S.E. Market Portland, OR 97216 503/251-6115
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Table of Contents

Accreditation	3
For Information	4
From the President's Desk	6
Areas of Study	7
Academic Calendar 1991-92	9
Our Educational Aims and Objectives	10
Our Mission	11
Student Life	36
Admission to the College	43
Academic Information and Policies	48
Academic Programs and Graduation Requirements	59
Areas of Instruction	76
Art	76
Biological Sciences	79
Chemistry	96
Communications	100
Computer Science	107
Education and Psychology	113
Engineering	125
English	137
Health, Physical Education, and Recreation	143
History and Political Science	152
Home Economics	157
Interdisciplinary Programs	158
Library Science	165
Mathematics	167
Modern Languages	172
Music	177
Nondepartmental	186
Nursing	188
Office Administration	194
Physics	200
Preprofessional Programs	205
Religion	216
Social Work and Sociology	225
Technology	232
Financial Information	249
Board of Trustees	271
Administration	271
Administration	271
Instructional Faculty	273
Index	282

Walla Walla College — Educating for Life

From the President's Desk . . .

Walla Walla College is one hundred years old, but it hardly shows its age. Naturally the years have taken their toll on the old buildings, the sidewalks, and even some of the majestic trees on campus, but college life itself remains youthful, vigorous, and alert. Even the senior faculty and staff have a difficult time ever feeling old here. This vitality, continually returning like spring time, must be attributed to generations of young, energetic students who keep coming here because they believe in Christian education of good quality, preparing them for a satisfying and useful life of generous service to God and to mankind.



Nevertheless, we pause during this centennial year to reflect upon one hundred years of achievement. Much of it has already been recorded in college bulletins preceding this one. They contain the names of generations of faculty members, the courses they taught, the programs of instruction they developed and the degrees and diplomas they recommended. How many ideas, how much information, what wisdom and skill are accumulated in all those bulletins!

But most important of all, during this centennial year, we recall the living legacy of Walla Walla College: The students who came here, their vision, determination and commitment to service, and the lasting impact they have left upon the communities in which they settled following graduation. For one hundred years Walla Walla College has provided a beacon of light to those seeking high quality Christian college education. This we celebrate and with it we resolve to devote ourselves to our mission with ever greater vigor during our second century. Welcome to Walla Walla College, a Christian College relentlessly pursuing the spirit of excellence.

Vick-Erik Sundaram

AREAS OF STUDY

BACCALAUREATE DEGREES

- Art, p. 76
- *Commercial Art, p. 76
- *Fine Art, p. 77
- Biblical Languages, p. 216
- Bioengineering, p. 130
- Biology, p. 79
- Biophysics, p. 158
- Business Administration, p. 85-87
 - *Accounting, p. 85
 - *Economics, p. 86
 - *Management, p. 86
 - *Management Information Systems, p. 86
 - *Marketing, p. 86
- Business Education, p. 195
 - *Accounting/Bookkeeping - Data Processing Occupations, p. 196
 - *Clerical Office Occupations, p. 196
 - *Secretarial Occupations, p. 196
- Chemistry, p. 96
- Computer Science, p. 107, 108
- Elementary Education, p. 113
- Engineering, p. 125
 - †Civil, p. 129
 - †Electrical, p. 129
 - †Mechanical, p. 129
- English, p. 137
- French, p. 172
- German, p. 173
- Health Science, p. 143
- History, p. 152
- Humanities, p. 159
 - *English, p. 160
 - *Fine Arts, p. 160
 - *History, p. 160
 - *Modern Languages, p. 160
- *Philosophy, p. 161
- *Religious Studies, p. 161
- Mass Communication, p. 100
 - *Journalism and Public Relations, p. 100
 - *Media, p. 101
- Mathematics, p. 167
- Medical Technology, p. 162
- Medical Technology and Clinical Chemistry (double major), p. 163
- Music, p. 177
- Music Education, p. 177
- Music Performance, p. 179
- Nursing, p. 188
- Office Administration, p. 194
- Physical Education, p. 144
 - *Fitness Management, p. 145
 - *Physiological Basis, p. 146
 - *Preparation for Teaching, p. 145
- Physics, p. 200, 201
- Psychology, p. 118
- Religion, p. 216
- Social Work, p. 225
- Sociology, p. 226
- Spanish, p. 173
- Speech Communication, p. 101
- Technology, p. 233
 - *Automotive p. 233
 - *Aviation, p. 234
 - *Biomedical Electronics, p. 234
 - *Electronics p. 235
 - *Graphics p. 235
 - *Technology Specialist p. 236
- Theology, p. 217

*Concentration available

†Option available

ASSOCIATE DEGREES (Two Years)

Business p. 88	Technology p. 237
Computer Programming p. 109	**Automotive p. 237
Secretarial Program p. 196	**Aviation p. 237
**Accounting Assistant p.197	**Electronics p. 238
**Office Assistant p. 197	**Graphics p. 238

CERTIFICATE PROGRAMS (One Year)

Auto Mechanics p. 239	Offset Copy Preparation p. 239
Aviation p. 239	Printing p. 240

PREPROFESSIONAL CURRICULA

Architecture (2)* p. 205	Pharmacy (2) p. 210
Chiropractic (2) p. 206	Physical Therapy (2) p. 211
Dental Hygiene (2) p. 206	Physical Therapy Assistant (2) p. 212
Dentistry (2) p. 206	Public Health (4) p. 212
Law (4) p. 207	Radiological Technology (1) p. 212
Medicine (4) p. 207	Respiratory Therapy (1) p. 213
Occupational Therapy (2) p. 209	Speech-Language Pathology
Optometry (2) p. 209	and Audiology (2) p. 214
Osteopathy (3) p. 210	Veterinary Science (2) p. 215

*Numbers in parentheses indicate the years of study normally required on the WWC campus before entrance into a professional school.

**Area Concentration available

GRADUATE DEGREES

(See Graduate Bulletin)

Master of Arts

- Education
- Counseling and Guidance
- Curriculum and Instruction
- Educational Foundations
- Religious Education
- School Administration

Master of Science

- Biology

Master of Social Work

Master of Education

- Counseling and Guidance
- Elementary Instruction
- Junior High Instruction
- School Administration
- Secondary Instruction in:
 - Biology, Biophysics, Business, Chemistry, English, Health & PE, History, Industrial Arts, Language Arts, Mathematics, Physics, Social Science

Teaching Credentials available in the areas mentioned above.

WALLA WALLA COLLEGE

ACADEMIC CALENDAR 1991-92

AUTUMN QUARTER

September	19-23	ThFSM	New Student Orientation, Advisement, and Testing
	23	M	New Student Registration
	24	T	Returning Student Registration
	25	W	Instruction Begins
October	1	T	Last Day to Register
	9	W	Last Day for Registered Students to Add a Class or Change to Audit
November	14	Th	Last Day to Withdraw from Classes
	26	T	Thanksgiving Vacation Begins (10:00 p.m.)
December	1	S	Thanksgiving Vacation Ends (10:00 p.m.)
	8, 9, 10, 11	SMTW	Final Exams

WINTER QUARTER

January	5	S	Registration
	6	M	Instruction Begins
	13	M	Last Day to Register
	20	M	Last Day for Registered Students to Add a Class or Change to Audit
February	3	M	Snow Frolic Day
	17	M	Snow Frolic Day (Portland Campus)
	26	W	Last Day to Withdraw from Classes
Mar.	15, 16, 17, 18	SMTW	Final Exams

SPRING QUARTER

March	29	S	Registration
	30	M	Instruction Begins
April	6	M	Last Day to Register
	14	T	Last Day for Registered Students to Add a Class or Change to Audit
May	6	W	Campus Day
	20	W	Last Day to Withdraw from Classes
	25	M	Campus Day (Portland Campus)
June	7, 8, 9, 10	SMTW	Final Exams
	14	S	Commencement (10:00 a.m.)

SUMMER QUARTER

June	21	S	Registration
	22	M	Instruction Begins
July	3	F	Independence Day Holiday
August	14	F	Eight-week Session Ends No Summer Commencement

OUR EDUCATIONAL AIMS AND OBJECTIVES

Walla Walla College is operated in harmony with the beliefs, practices and educational philosophy of the Seventh-day Adventist Church.* The College determines its academic policies and offerings in accordance with the following assumptions:

1. That the central mission of the church remain central to the concerns of the College, however, variously it may express itself;
2. That a college at best is a community of teachers and students engaged in a search for truth;
3. That a college should be a place where teachers and students from among all people can meet and work together in peace for their good, the good of all people, and the glory of God;
4. That a college education should help develop the individuality of each student.

Cognizant of the power of a good education to cultivate the best that humans, under God, are capable of, Walla Walla College strives to meet the needs of individuals and of society, keeping the following as its basic objectives:

1. To provide conditions that will encourage physical, social, intellectual and spiritual development, and to teach principles that stress the interdependence of these aspects of the person's life and the need for proper balance among them;
2. To present the ideals and principles of Christianity in a manner that will promote the development of a Christian life characterized by understanding, integrity, responsibility and tolerance, as well as commitment to God and service to fellow humans;
3. To make the college community a place where, regardless of sex, creed, culture, race or nationality, students can meet and pursue their academic goals in dignity and peace;
4. To encourage independent thinking.

To accomplish the goals listed above, Walla Walla College seeks, more specifically, to provide:

1. A sound general education in the arts, humanities, mathematics, social and natural sciences and the Christian heritage;
2. A thorough instruction in a number of technical and industrial areas;
3. A thorough instruction in a specified field.

* For a more complete statement of the fundamental beliefs of Seventh-day Adventists, see the Seventh-day Adventist Church Manual (Washington, D.C.: 1986).

OUR MISSION

Walla Walla College is a center of higher learning founded and supported by the Seventh-day Adventist Church. The college is committed to quality Christian education in the Seventh-day Adventist tradition. This tradition aims to develop in students the whole of their human potential, and bring them into harmony with their Creator. The college's special task is to prepare students to participate in the church's unique mission to the world. In the context of a liberal arts education, the college offers liberal arts, professional, and technical programs to prepare students to become responsible and contributing members of society.

The college is a learning community continuing the Western and Christian heritages. Here, students find personal identity while developing a world view and learning appreciation for other peoples and cultures. In this environment, students grow socially and spiritually as they form friendships and worship with others from diverse backgrounds.

Through fellowship as well as instruction the faculty seek to develop in students the capacity to think independently, analytically, and creatively; to participate independently within the church and other corporate bodies; to communicate their ideas clearly; to understand significant moral and social issues; to address these issues from the perspective of Christian values; and to live for the service of God and the betterment of mankind.



1903 graduating class

THE COLLEGE CAMPUS

Walla Walla College is located in the city of College Place, in the historic, fertile Walla Walla Valley of southeastern Washington. The Old Oregon Trail, passing west of the campus, leads directly to the nearby Whitman Mission National Historic Site. The scenic Blue Mountains to the east and the Snake and Columbia Rivers to the north and west offer opportunities for recreation and relaxation.

The College, in successful operation since December 7, 1892, was established in harmony with a resolution unanimously adopted at the General Conference of Seventh-day Adventists held in Battle Creek, Michigan in 1891.

The college buildings are situated on a 55-acre campus, with additional facilities located on adjoining lots of land totaling 22 acres.

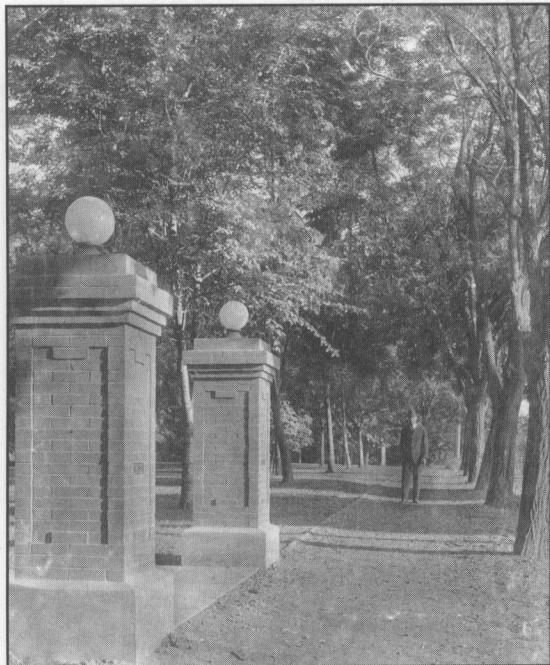
The college provides assistance to encourage the attendance and academic success of handicapped students. The campus and a number of buildings have been modified to provide easy wheelchair access.

PORLAND CAMPUS. Walla Walla College provides academic and residence hall facilities in Portland, Oregon for its upper-division nursing students completing course work at Portland Adventist Medical Center. Classrooms, a large library, skills

laboratory and faculty offices are housed in the academic building. The residence hall provides living and recreational accommodations for 134 students.

MARINE STATION.

Walla Walla College maintains a biological research facility at Rosario Beach, adjoining Deception Pass State Park, Anacortes, Washington. This facility occupies 40 acres of beach and timberland, and includes five laboratory buildings, a kitchen and assembly hall, shop and 29 cabins for student and staff housing.



Gateway to Service along Shady Row before 1922

OUR BEGINNINGS

by Terrie Dopp Aamodt

An excerpt from *Bold Venture: A History of Walla Walla College*,
© Walla Walla College, 1991

Walla Walla College stirred to life well before dawn on Wednesday, December 7, 1892. It began as a single organism — one building, an imposing brick structure whose basement and four upper stories comprised the homes of most of the students and faculty, as well as all of the classrooms, recreation, dining, and worship facilities.

The building was not ready for classes, or even for habitation, but the first catalog* had advertised in the fall that school would begin on this day, and so it would. Already the building had become home to 80 students and 9 faculty; more students would be arriving during the day.

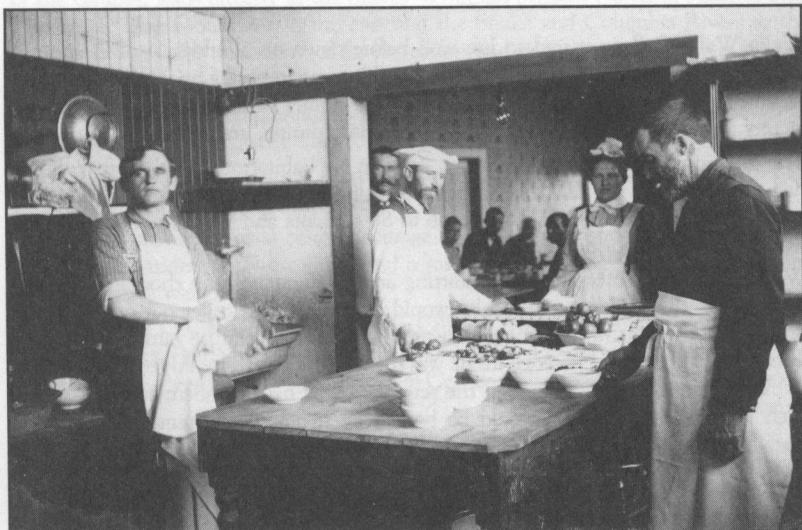
Without the excitement of school starting and the demands of a thousand tasks yet to be done, the students and faculty would have struggled to get out of bed in the predawn hours that first morning. It was cold. The temperature outside was below freezing, and the only difference inside was the heat generated by shivering bodies and smoky kerosene lamps. Although the school catalog had confidently promised that each room in the building would be heated by steam, the system was still being installed.



Administration Building and Sanitarium around 1907

*See pages 18 - 35 of this publication for a reprint of the 1892 Bulletin.

Early morning baths and showers were out of the question. The water was icy, and it was available in just one place — a hand pump at the well outside the basement door. Wise folk, thinking ahead, had filled basins the night before and carried them up to their rooms; the rest formed a sleepy parade down the narrow stairways of the north and south dormitory wings to fill their washbowls at the meager, temporary water supply.¹



Early days of the cafeteria on lower level of administration building

The building had a more cheerful aspect from the outside as its many windows shed a deceptively warm glow onto the bleak surroundings. The college stood at the top of a hill, facing the sunrise. The ground around the building had been a vast stretch of bare dirt, but the first cold rays of winter dawn revealed that enough snow had fallen during the night to spruce up the construction site.

Breakfast was eagerly anticipated, since the school served only two meals a day and students were not allowed to keep food in their rooms. But nothing was going to be easy that day. The institutional-sized range that had been hauled in to cook the fuel for nearly 100 hungry stomachs refused to cooperate. The draft worked backward, filling the basement kitchen with smoke. Breakfast was a hastily improvised affair that included white crackers and milk.² The school's first matron, Mrs. E. A. Sutherland, reported that they did the best they could: "We borrowed a neighbor's stove — just an ordinary family size — and put the pipe out the kitchen window. At our first breakfast we served eighty hungry students in a cold dining room with the food that we could provide on this family cook stove. The worst of it was that we had no other stove for days and days."

Mrs. Sutherland was doubly concerned as she served this makeshift meal. The dormitory students at Walla Walla College were part of an unprecedented experiment

— their faculty had decided the school should follow the advice given by the church's spiritual leader, Ellen White, but heeded by only a few. The opening of Walla Walla College marked the first time that a Seventh-day Adventist college had offered a strictly vegetarian diet to its students. "We felt it necessary that the students be at least reasonably well fed if we were going to convert them to the idea of a non-meat diet," said Mrs. Sutherland. "I will always remember with gratitude the cooperation that we received from the student body at that time. We needed it, for the ruling powers in the church were not at all sympathetic with the innovation."³

By the time breakfast was over around 7:00, the building had already resounded for hours with the clang of the steam-fitter's sledge and the thump of carpenters' hammers. When would school start? No one seemed to know. At 8:30 the new bell in the cupola finally added to the cacophony. Most of the tiny community of College Place, known as "the village," came to investigate. A few were non-resident, or "village," students; the rest were spectators. They were directed to the site of the first assembly: the basement gymnasium. (The chapel on the second floor, future site of the daily gatherings, was still filled with carpenters.)

Eventually everyone gathered in a corner of the vast, echoing cavern, and Walla Walla College was officially in session. "Praise God from whom all blessings flow," sang the group, relieved that school was beginning on schedule. After scripture, prayer, and welcoming remarks, registration began in what became a long tradition of gymnasium registrations at Walla Walla College. This first time was more complicated



Student body, staff, and board members in 1912

than most. Formal education in the three-year-old State of Washington was so rudimentary that the only way to determine placement of students was to test them on the spot. It took the rest of the day to examine the students and put them in classes. By the end of the day 101 students had been registered, the largest first day attendance of any Adventist school up to that time.⁴

From the vantage point of a century later, this day does not look auspicious. How could such a tiny school, already heavily in debt, stretch its meager resources to feed, house, and educate students, pay its teachers, and recruit new faculty? How could it survive the unseen national financial panic lurking a few months into the future? School after school was being founded in this raw frontier land, and not many would survive. Where would Walla Walla College find the staying power to witness its own 100th birthday?

If onlookers would have been surprised to hear that the school would someday celebrate its centennial, the students and faculty themselves would have been astonished. Ever since the Seventh-day Adventist church had been founded not quite 30 years before, its members, true to their Millerite roots, had eagerly awaited Christ's Second Coming, an event they expected could happen at any time. Walla Walla College's first students were nearly compromising their beliefs to attend at all since time was so short. In fact, many of them opted for one-year programs rather than a full college course because they wanted to get out into "the field" and help prepare the world for the Second Coming. Graduate degrees were far from the minds of everyone, and many decades would pass before it would be even thinkable to discuss endowments and master plans, acknowledging that the school might be there for a while.

Given the odds, and given the expectations of its own founders, the fact that Walla Walla College is thriving at its centennial is an anomaly. What enabled it to survive? Generations of hardy folk who weathered various disasters thanked Divine Providence. A belief that the college was fulfilling an educational mission prompted the support of the constituency and kept generations of staff members working long hours at "missionary wages." Sometimes the existence of Walla Walla College depended upon the strong will of individuals including Henry W. Decker, Marion E. Cady, and William Landeen, who were too tenacious to give up when prevailing wisdom urged them to accept things as they were.

The very factors that at first seemed to encourage an early demise for Walla Walla College ultimately enabled it to survive. The evangelistic and apocalyptic fervor that made it difficult for the college's founders to see the need for permanent buildings and long-range programs also provided a source of direction and focus that kept the school functioning under the most difficult circumstances.

A strong initial sense of direction at Walla Walla College was articulated in its first statement of mission: the school would provide young people with "a Christian education surrounded with influences favorable to the development of Christian character."⁵ This statement signifies a thread that continued while the school struggled to reconcile its philosophy and practice, while windstorms, fires, epidemics, financial collapses, wars, rumors, and purges threatened to tear it to pieces. This thread remained the guiding principle of the college through its success, which included achieving accreditation during the height of the Great Depression, doubling the enrollment in two years following World War II, and embarking on a 25-year period of growth that began in the mid-1950's.

If the students who inaugurated Walla Walla College on December 7, 1892, were able to visit the campus a hundred years later, they would at first notice only the contrasts between the present institution and their school. Yet after the initial impact of the vast contrasts had been absorbed, the wide-eyed visitors would begin to notice some-

thing familiar at a deeper level. They would see that the spirit of service that has trained generations of graduates to minister to the welfare of others is still central to the purpose of the college. It still creates the Seventh-day Adventist Christian context in which classes are taught, and it still provides a sense of direction for graduates when they embark on their careers. Although the college at its one hundredth birthday has grown beyond the visions of its founders, the 1892 statement still summarizes its mission. For Walla Walla College, this continuity has provided the key to its survival.

NOTES

1. Details of the college's early utilities inadequacies are described in an unpublished biography of E. A. Sutherland by Felix Lorenz, a member of the Madison College faculty in the 1950's. Although the building was wired for electricity, there was no electrical source until after the 1893-1894 school year. During the first year, classrooms had heating stoves with stovepipes going out the windows. The first water supply came from a well with a hand pump (Chapter 7, Loma Linda University Heritage Room, Sutherland Collection), 5.
2. Mrs Ella-Evans Hughes, WWC preceptress in 1892, quoted in Felix Lorenz typescript, "College in the Northwest" (Loma Linda University Heritage Room, Sutherland collection), 2.
3. Sallie V. Bralliar Sutherland, quoted by Clara E. Rogers, "A Brief History of Walla Walla College (unpublished manuscript, 1939), 7-8.
4. E. M. Cadwallader, "A History of Seventh-day Adventist Education," 3rd ed. (mimeographed copy, 1958, Heritage Room La Sierra University Library, 261.
5. 1892 Walla Walla College Calendar, 5.

PRESIDENTS OF WALLA WALLA COLLEGE

*William Prescott	1892-1894
*Edward A. Sutherland	1894-1897
*Emmett J. Hibbard	1897-1898
*Walter R. Sutherland	1898-1900
*Edwin L. Stewart	1900-1902
*Charles C. Lewis	1902-1904
*Joseph L. Kay	1904-1905
*Marion E. Cady	1905-1911
*Ernest C. Kellogg	1911-1917
*Walter I. Smith	1917-1930
*John E. Weaver	1930-1933
*William M. Landeen	1933-1938
*George W. Bowers	1938-1955
*Percy W. Christian	1955-1964
William H. Shephard	1964-1968
Robert L. Reynolds	1968-1976
N. Clifford Sorensen	1976-1985
H.J. Bergman	1985-1990
Niels-Erik Andreasen	1990-

*deceased

FIRST ANNUAL CALENDAR

OF . . .

Walla Walla College,

LOCATED AT

COLLEGE PLACE,

NEAR WALLA WALLA, WASHINGTON.

Special Notice.

A CONVEYANCE from the College will meet all students who arrive during the first week after the opening of the school year, and they will be carried to College Place without charge. After the first week students who desire to be met at the station, must notify the College of the time of their arrival, and a charge of twenty-five cents will be made for each passenger. The regular hack fare is not less than two dollars.

8

THE FEAR OF THE LORD IS THE
BEGINNING OF WISDOM: AND THE
KNOWLEDGE OF THE HOLY ONE IS
UNDERSTANDING.

PROV. 9:10, R. V.

9

BOARD OF MANAGERS.

R. S. DONNELL, PRESIDENT.

D. T. JONES.

T. L. RAGSDALE.

J. E. GRAHAM.

GREENVILLE HOLBROOK,

T. H. STARBUCK.

AARON MILLER.

~~~~~

## CALENDAR.

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*There will be no Fall Term.*

DECEMBER 7, 1892 - - - - - *Winter Term Begins.*

FEBRUARY 28, 1893 - - - - - *Winter Term Closes.*

*Vacation One Week.*

MARCH 8, 1893 - - - - - *Spring Term Begins.*

MAY 30, 1893 - - - - - *Spring Term Closes.*

## FACULTY.

---

WILLIAM W. PRESCOTT, PRESIDENT.

EDWARD A. SUTHERLAND, PRINCIPAL.

English Bible.

ELLA EVANS, PRECEPTRESS.

Natural Sciences.

F. W. HIDDLESON,

English Language.

JOSEPH L. KAY,

Mathematics.

CASSIUS B. HUGHES.

History.

JOEL C. ROGERS,

Latin and Greek Languages.

JESSIE HOCKER,

Primary Department.

---

MRS. SALLIE V. SUTHERLAND.

Superintendent of Domestic Department.

ISAAC A. DUNLAP,

Business Manager.

# Walla Walla College.

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**A**T the twenty-ninth session of the Seventh-day Adventist General Conference, held in Battle Creek, Mich., March 5-25, 1891, it was voted to establish a college at Walla Walla, Washington. Since that time a suitable location has been secured, facilities provided, and the institution, which has been named Walla Walla College, will be opened for the reception of students December 7, 1892. The object in view in establishing the institution is to provide facilities where young people of both sexes may receive a Christian education, while surrounded with influences favorable to the development of Christian character.

Walla Walla, near which the College is located, is a city of seven thousand inhabitants, situated in Walla Walla county, the great fruit-growing section of Eastern Washington. The Union Pacific and the Northern Pacific railroad systems both reach the city. College Place, the suburb in which Walla Walla College is located, is situated about two and one half miles southwest from the business portion of the city, and the College is in full view from the principal streets.

The College campus consists of about ten acres upon elevated ground, commanding a view of the beautiful Walla Walla valley. The College building is a substantial structure of brick, four stories in height, surmounted by a bell tower. Two brick dormitories are connected with it, four stories in height, with sufficient capacity to accommodate about 150 students. The rooms are all heated by steam.

## COLLEGE YEAR.

The College year will open December 7, 1892, and will consist of two terms of twelve weeks each. There will be a short vacation between these terms, as shown by the calendar.

## THE HOME LIFE.

The dormitory system is strictly followed, and all unmarried students whose parents or legal guardians do not reside at or near College Place, are required to board and room at the College building. Failure to comply with this require-

ment will justify the Faculty in declining to receive students for classification. Under exceptional circumstances, permission may be given for living with relatives. All applications for such permission, stating the reasons for the request, must be presented before any such arrangement is made. Students who are really unable to meet the expense at the Home, will be permitted, on application, to secure approved places where they may work for their board. *Students are not allowed to board themselves.* The Managers are well satisfied that the desired results in the College work can best be reached when non-resident students live in the school home, under the immediate care of, and closely associated with, Christian teachers. The program of the Home is such as can be followed by all without inconvenience, and the requirements are such as are consistent with a spirit of trust and freedom. The work of the Home is largely done by the students themselves, each one working one hour per day in part payment of his expenses. The duties thus performed are of the same nature, and come at the same hour each day for each term. The work is so planned that when each one has performed the amount assigned, the whole work is accomplished in an orderly way. The training thus received in bearing some responsibility during the years of school life, is extremely valuable both in the present and future results. Children under fourteen years of age are not received into the school Home, unless by special arrangement.

#### PLAN OF WORK.

It is the purpose of the Institution to do more for its students than merely to make them proficient in some lines of study. The object sought will be to develop and train every part of the being—physical, mental, moral; the finished result being men and women of refinement and culture, possessing true Christian character. The discipline of the institution will have reference to this end. The regulations are such as are deemed by the Management to be in harmony with this general plan. It is the purpose of the Managers that the work in the various lines of study should be conducted with a purpose to inspire a reverence for God's word, and inculcate confidence in its teaching, and to lead as many as possible to a practical enjoyment of, and a larger growth in, genuine Christian experience. The study of the Holy Scriptures, and of history interpreted in the light of scripture, will be made prominent features of the work. In these days, when the very foundations of Christianity are being assailed, and so many are wavering in their belief in the inspiration of the Bible and in its authority in matters of faith and practice, it is certainly important that in a well-rounded course of study, due consideration should be given to a careful and reverent study of God's word. The work covers a period of four years. The first year is devoted to the earlier Old Testament period, the second to the life and teachings of Christ in the Gospels, the third to the Epistles, and the fourth to Old Testament prophecies. The work is eminently practical, and is designed to be a means of daily growth in

Christian experience and in this way a preparation for usefulness in any department of Christian effort.

#### ENGLISH PREPARATORY DEPARTMENT.

In addition to the courses of study presented on pages 18 and 19, an English Preparatory Department will be maintained, in which such work will be done as is usually found in the public schools. The study of the English Bible will also be pursued in these grades. The object of this department will be to afford those who are deficient in the common branches an opportunity to prepare for the regular preparatory courses.

#### EXAMINATIONS.

Every student will be required to pass an examination, both written and oral, upon entering the school, to determine what classes he is fitted to join. Those who desire to obtain credit for work done at other institutions, must, during the first year of their stay at the College, either pass a satisfactory examination in each branch, or present such evidence from other instructors as will, in the judgment of the Faculty, entitle them to such credit without examination. Work done in approved high schools and academies may be accepted: (1) For corresponding work in classics and modern languages in all courses; (2) for any other subject included in the classical preparatory course. Credit may be allowed in the College courses for work done in other colleges of good standing. A final examination is held in each study whenever it is completed, and more frequent examinations are held at the discretion of the instructors. No credit will be allowed for an examination in any study during a student's course unless he has pursued it under the direction of some competent instructor.

#### DISCIPLINE.

Such general regulations as have been adopted by the Board of Managers are found on page 9. More specific suggestions are made by the Faculty as circumstances may require. Students who attend the institution for the purpose of receiving the greatest possible benefit, and who are willing to submit to reasonable regulations, will find themselves in harmony with the management.

#### RELIGIOUS BASIS OF THE INSTITUTION.

The College is a denominational institution, and is conducted upon this basis. While no religious test will be required of students, yet no one will be allowed to remain in the institution who seeks to disseminate infidel views among his associates. Such religious meetings will be conducted in connection with the College work as may be deemed most conducive to the spiritual growth of those in attendance. The seventh day of the week is observed as the Sabbath, and all non-resident students are expected to conform to this plan so far as not to interfere with the observance of the day in its proper spirit.

### HONORABLE DISMISSAL.

Every student who sustains a good moral character and otherwise acquits himself creditably, is entitled, on leaving the College, to a certificate of honorable dismissal on presentation of a receipt from the treasurer, showing that all dues to the College have been paid.

### NEEDS OF THE COLLEGE.

(1) Funds with which to purchase books for the library. Donations of standard works would be thankfully received. Please correspond with the Principal of the College before sending them. (2) Specimens for the museum. Curiosities of any kind from all parts of the world. (3) Philosophical apparatus of any description. Outfit for the chemical laboratory. (4) Contributions to a fund from which worthy students may receive some financial aid.

### MISCELLANEOUS.

**BOOKS AND STATIONERY** are kept for sale in the College building, at the usual prices.

**EACH** student must provide himself with a good pair of rubber boots.

**THE COLLEGE** does not undertake to furnish any work to students further than is required in part payment of their expenses.

**THE SCHOLARSHIP** of each student is carefully noted, and recorded for permanent reference. The degree of proficiency is denoted by different grades. The first grade is excellent, the second grade is good, the third grade is fair, and the fourth grade is poor. The fourth grade does not permit students to pass into advanced classes.

**CERTIFICATES** of scholarship are given at the close of each term, showing the standing of each student in the branches he has studied.

**NEEDED DENTISTRY** should be attended to in vacation.

**ALL MAIL** for members of the College should be directed to College Place, Walla Walla Co., Wash. The word "College" added to the address will facilitate its delivery.

**ALL CORRESPONDENCE** relating to the institution should be addressed to the Principal of the College.

## Regulations.

### GOVERNING ALL STUDENTS OF WALLA WALLA COLLEGE DURING THE ENTIRE COLLEGE YEAR.

Punctual attendance on the part of every student is expected. In cases of absence or tardiness, teachers will require students to render an excuse, approved by the Principal, before resuming their studies.

Students must abstain from indecent or disorderly behavior; from profane or unbecoming language; from visiting billiard-rooms, saloons, and gambling-places; from the use of tobacco and alcoholic drinks; from card-playing, and from all improper associations.

No student shall enter or leave any class of any department, except by permission of the Principal.

Every student is required to pass a satisfactory examination in each study pursued, before entering a succeeding class.

Permission for absence from the College during the school sessions must be obtained from the Principal.

No student shall receive private lessons or engage in teaching, except by permission of the Faculty.

Each student will be required to pay for damage done by him to the property of the College.

Three full studies pursued at the same time constitute full work, and no student will be allowed to take more, unless by special permission of the Faculty, the request and reasons therefor having been previously presented in writing.

Unrestricted association of the sexes is not permitted, and all students are expected to maintain a proper degree of reserve in their association with those of the opposite sex. Gentlemen must not escort ladies on the street or to or from public gatherings.

Attending parties, the theater, or any entertainment of an objectionable character, interferes with a student's work, and exerts a wrong influence in the school. It is therefore forbidden. Frequent attendance upon evening gatherings of any kind is not in harmony with the plan of work at the College, and may be made a matter of discipline at the discretion of the Faculty.

Whenever, in the judgment of the Faculty, a student's attendance is no longer profitable to himself, or is detrimental to the school, he may be dismissed.

## THE HOME.

It will be expected that each one will conform to the daily program arranged by those in charge. Every member of the school-family must be at home evenings, unless special permission is obtained to the contrary. Students will not go to the city at any time without permission.

Ladies will be permitted to receive gentlemen callers on Sundays and Thursdays. All such calls must be made in the public parlors, and only by permission of the Preceptress.

As the work of the school is done by the students, each member of the school-family, both ladies and gentlemen, should bring suitable clothing for this purpose. Two long work-aprons are a necessary part of this outfit.

Each boarder will furnish his own toilet soap, six towels, four napkins, napkin-ring, four pillow-cases, four sheets, a bed-spread, a pillow, and quilts or blankets. Those who come unprovided with these things will be required to purchase them here. *All articles should be plainly and durably marked with full name of owner.*

Students must not be strolling about in the city or country on the Sabbath (Saturday), but must regard the day, and attend public worship. They are not allowed to make or receive calls on the Sabbath, nor should they spend a single Sabbath away from the College during term-time. However great may be the privileges elsewhere, the excitement of meeting friends and of visiting must prevent, in a measure, the benefit which might otherwise be gained.

The health of the student is considered of the greatest importance; and as health depends largely upon habits of diet, parents are requested not to send boxes of food to their children. No objection is made, however, to their receiving fresh fruit. No other kind of food will be allowed in the rooms, except in special cases, when trays may be ordered.

The years which a young girl spends at school are those in which good physical habits should become so confirmed as to be necessary for comfort. It will, in every case, be required that the whole outfit be in harmony with the necessities of good physical development. The lady in charge of this department will insist on a change of dress, whenever that worn is judged by her to be a hindrance to the best health. All dresses should be as light as is consistent with warmth: evenly distributed; all skirts hung from a waist so loosely worn that the arms can reach straight up with perfect ease; sleeves also to admit of the freest movement. No corsets should be worn with any suit. The shoes worn should have low heels. All students are expected to dress plainly. The wearing of jewelry and any unnecessary ornamentation in dress is not in good taste here, and will not be in harmony with the wishes of the managers.

## Expenses.

The charge for non-resident students will be \$15, \$16, or \$17 per month of four weeks, depending upon the size and location of the room, *payable in advance*. This will include board, use of furnished room, light, heat, plain washing, use of the library and reading-room, and tuition in any regular course of study. These prices are based upon the supposition that two students occupy each room, and that two meals per day are furnished. Any change from this plan will necessitate an increase in the charges made. A discount of one dollar per month will be made when payment for five months (twenty weeks) or more is made at one time *in advance*.

In addition to the cash payment, one hour's work each day (seven hours per week) is required of each student as a part of his dues to the College.

These charges are so low that the College will be unable to meet extra expenses incurred on account of the illness of students. In such cases the actual expenses of providing a physician or a nurse, five cents extra for each meal sent to the room, and eight cents for each hour of domestic work omitted, will be charged to the student's account.

No deduction from regular charges will be made for absence during the short vacation.

In most cases, it will be better for parents to send money directly to the College, and not to their children. Students need but little spending-money, and parents are urged to require a monthly statement of expenses from their children.

The rates of tuition for resident students are as follows:—

From the first to the fourth grades, \$2.00 per month; from the fifth to the eighth grades, \$3.00 per month; from the ninth to the twelfth grades, \$3.50 per month; and all above the twelfth grade, \$4.00 per month.

Those students who do not take full work will be charged half rate for one branch of study, and three-fourths rate for two branches.

In making out all bills to students, the time will be reckoned from the first or the middle of the school month in which the student enters. If a student withdraws during the first half of a school month, he will be charged to the middle of the month. If he withdraws at any time after the middle of the month, he will be charged to the end of the month.

Where three or more students belonging to the same family attend the College, a deduction of 10 per cent from the regular charges will be made in their favor.

The payment at the time of entering, of an incidental fee of 50 cents will be required from all resident students, which will be used in the support of the Library and Reading-room.

A discount of 5 per cent will be allowed to such resident students as pay their tuition semi-annually, *in advance*.

# Departments of Instruction.

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## COURSES OF STUDY FOR 1892-93.

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### Collegiate Department.

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All students desiring to enter either of these courses, must first pass a satisfactory examination upon the studies of the corresponding Preparatory Course. (See paragraph on examinations, page 7.)

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### Freshman Year.

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#### CLASSICAL COURSE.

**LATIN:**—  
Horace. Virgil.

**GREEK:**—  
Jones's Prose, and *Anabasis*.

**MATHEMATICS:**—  
*a.* Advanced Algebra. Special Discussion of Choice, Chance, Series, Determinants, and the General Properties of Equations.  
*b.* Plane and Spherical Trigonometry. Special Attention to Functions and their Relations. Applications to Surveying, Astronomy, and Navigation.

**GENERAL ASTRONOMY:**—  
Spherical and Physical.

#### SCIENTIFIC COURSE.

**LATIN:**—  
Cicero and Prose. Ovid.

**GERMAN.**

**MATHEMATICS:**—  
Plane and Solid Geometry, with Practical Problems and Illustrations; also a short course in Conics.

**HISTORY:**—  
Rome from the Foundation of the City to the Division of the Empire, A. D. 476, comprising the history of both Church and State, the Establishment of Christianity, its Union with the State, and the making of the Papacy.

## Sophomore Year.

## CLASSICAL COURSE.

## GREEK:—

Demosthenes. Homer: *Iliad* or *Odyssey*.  
Exercises in Greek Syntax.

## LITERATURE:—

History of English Literature, the reading of Standard Authors, and Class Reports and Criticisms.

## POLITICAL ECONOMY.

## HISTORY:—

Rome from the Foundation of the City to the Division of the Empire A. D. 476, comprising the History of both Church and State, the Establishment of Christianity, its Union with the State, and the making of the Papacy.

## SCIENTIFIC COURSE.

## LATIN:—

Horace. Virgil.

## GERMAN.

## MATHEMATICS.

a. Advanced Algebra. Special discussion of Choice, Chance, Series. Determinants, and the General Properties of Equations.

b. Plane and Spherical Trigonometry. Special attention to Functions and their Relations. Applications to Surveying, Astronomy, and Navigation.

## GENERAL ASTRONOMY:—

Spherical and Physical.

## HISTORY:

The Kingdoms of Europe in the Dark Ages; the Papal Supremacy, and the Reformation.

## Junior Year.

## CLASSICAL COURSE.

## LATIN:—

Prose Composition. Seneca. Horace.

## GREEK:—

New Testament.

## ZOOLOGY:—

Packard's Zoölogy with Lectures and Laboratory Work.

## CHEMISTRY:—

General Chemistry, Experimental and Recitations; Analytical Chemistry, Laboratory Work in Qualitative Analysis.

## MATHEMATICS:—

a. General Geometry. Rectilinear and Polar Coördinates, Conic Sections, Higher Plane Curves, and advanced work by means of the Principles of the Calculus.

b. Calculus: Differential and Integral, based on the Theory of Infinitesimals. Special Applications, and Practical Problems in Mechanics.

## HISTORY:—

The Kingdoms of Europe in the Dark Ages; the Papal Supremacy, and the Reformation.

## SCIENTIFIC COURSE.

## LITERATURE:—

History of English Literature, the Reading of Standard Authors, and Class Reports and Criticisms.

## POLITICAL ECONOMY.

## ZOOLOGY:—

Packard's Zoölogy, with Lectures and Laboratory Work.

## CHEMISTRY:—

General Chemistry, Experimental and Recitations. Analytical Chemistry, Laboratory Work in Qualitative Analysis.

## HISTORY:—

The Constitutional History of England; the Rise of the United States; History of its Institutions; Relations of Church and State, and the present development in the union of the same.

## Senior Year.

*CLASSICAL COURSE.***LOGIC:**

Terms, Propositions, Deduction, Induction. Exercises in Argumentation and the Conduct of a Discussion.

**ADVANCED PHYSICS:**

General Mechanics, Electricity, Sound, Heat, and Light.

**MINERALOGY:**

Practical Exercises in Mineralogy and Lithology.

**MENTAL SCIENCE.****POLITICAL SCIENCE.****MORAL SCIENCE.****HISTORY:**

The Constitutional History of England; the Rise of the United States; History of its Institutions; Relations of Church and State, and the present development in the union of the same.

*SCIENTIFIC COURSE.***LOGIC:**

Terms, Propositions, Deduction, Induction. Exercises in Argumentation and the Conduct of a Discussion.

**ADVANCED PHYSICS:**

General Mechanics, Electricity, Sound, Heat, and Light.

**MINERALOGY:**

Practical Exercises in Mineralogy and Lithology.

**MENTAL SCIENCE.****POLITICAL SCIENCE.****MORAL SCIENCE.****MATHEMATICS:**

a. General Geometry. Rectilinear and Polar Coördinates, Conic Sections, Higher Plane Curves, and advanced work by means of the Principles of the Calculus.

b. Calculus: Differential and Integral, based on the Theory of Infinitesimals. Special Applications, and Practical Problems in Mechanics.



## Biblical Course.

### FIRST YEAR.

#### MATHEMATICS:—

Plane Geometry, with Practical Problems and Illustrations.

#### BOTANY, STRUCTURAL AND SYSTEMATIC.

#### BIBLE:—

The Acts and Epistles of the Apostles, special attention being given to the Inspiration and Office of the Holy Scriptures and the Plan of Salvation, as shown in Justification by Faith.

#### HISTORY:—

Rome from the Foundation of the City to the Division of the Empire, A. D. 476, comprising the History of both Church and State, the Establishment of Christianity, its Union with the State, and the making of the Papacy.

### SECOND YEAR.

#### LITERATURE:—

History of English Literature, the Reading of Standard Authors, and Class Reports and Criticisms.

#### ASTRONOMY, DESCRIPTIVE, WITH MAP DRAWING.

#### NEW TESTAMENT GREEK.

#### BIBLE:—

A study of the Gospel of Jesus Christ in the writings of the Prophets,—different books being studied each year,—the design being to obtain a better understanding of the more obscure portions of the Old Testament Scriptures.

#### HISTORY:—

The Kingdoms of Europe in the Dark Ages; the Papal Supremacy; and the Reformation.

### THIRD YEAR.

#### MENTAL SCIENCE.

#### MORAL SCIENCE.

#### POLITICAL SCIENCE.

#### NEW TESTAMENT GREEK.

#### HIGHER ENGLISH:

A Critical Study of the Masterpieces of English and American Authors.

#### HISTORY:

The Constitutional History of England; the Rise of the United States, History of its Institutions; Relations of Church and State, and the present development in the union of the same.

## Preparatory Courses.

These courses are open to such students as have completed the English Preparatory Course (see page 7), or its equivalent.

### *Classical and Scientific Courses.*

#### **FIRST YEAR.**

##### **RHETORIC:**—

Invention, Diction, Figures of Speech, Proof-reading and Criticism, Practical Exercises, and the writing of Essays.

##### **AMERICAN LITERATURE.**

##### **MATHEMATICS:**—

Algebra: to the Equation. Simple and Quadratic Equations. Proportion, Progressions, and Logarithms. Special attention to all reasoning processes.

##### **BOOK-KEEPING:**—

Bryant's Commercial.

##### **LATIN:**—

First Lessons.

### *Classical and Scientific Courses.*

#### **SECOND YEAR.**

##### **LATIN:**—

Cæsar. Prose Composition.

##### **ELEMENTARY PHYSICS.**

##### **PHYSIOLOGY, HYGIENE, AND SANITARY SCIENCE.**

##### **BOTANY, STRUCTURAL AND SYSTEMATIC.**

##### **HISTORY:**—

The Period from the "Peopling of the Earth" to the fall of the Grecian Empire, including the most important events of Assyrian, Chaldean, Egyptian, Babylonian, Medo-Persian, and Grecian History, and a careful comparison of the Profane History with the Prophecies of the Bible.

### *CLASSICAL COURSE.*

#### **THIRD YEAR.**

##### **LATIN:**—

Cicero. Prose Composition. Ovid.

##### **GREEK:**—

First Lessons. Anabasis.

##### **MATHEMATICS:**—

Plane and Solid Geometry, with Practical Problems and Illustrations; also a short course in Conics.

## Biblical Preparatory Course.

## FIRST YEAR.

## RHETORIC:—

Invention, Diction, Figures of Speech, Proof reading and Criticism, Practical Exercises, and Essays.

## AMERICAN LITERATURE.

## MATHEMATICS:—

Algebra: to the Equation. Simple and Quadratic Equations, Proportion, the Progressions, and Logarithms. Special attention to all reasoning processes.

## BOOK-KEEPING:—

Bryant's Commercial.

## BIBLE:—

The Power of God in Creation; the Temptation, Fall, and Entrance of Sin; The Lives of the Patriarchs; God's Dealings with the Children of Israel from Egypt to the Promised Land.

## SECOND YEAR.

## ELEMENTARY PHYSICS.

PHYSIOLOGY, HYGIENE, AND SANITARY SCIENCE.

## BIBLE:—

The Mission of Jesus Christ to Earth as Revealed in the Four Gospels; with Practical Instruction on the Power of God in Conversion and Sanctification.

## HISTORY:—

The Period from the "Peopling of the Earth" to the Fall of the Grecian Empire, including the most important events of Assyrian, Chaldean, Egyptian, Babylonian, Medo-Persian, and Grecian History, and a careful comparison of the Profane History with the Prophecies of the Bible.



**ASSOCIATED STUDENTS OF WALLA WALLA COLLEGE.** All WWC faculty and regularly enrolled undergraduate students are members of the ASWWC. ASWWC elected officers are responsible for a wide range of social and religious activity planning, and for representing student needs and concerns to WWC administrators. The ASWWC is also responsible for production of the *Mask* student directory, *The Collegian* weekly student newspaper, and the *Mountain Ash* yearbook and video. Student editors of these publications are appointed by the ASWWC Publications Board. The ASWWC is sponsored by the Vice-President for Student Administration.

**CAMPUS CLUBS.** Students of varying interests and social tastes support a variety of campus clubs and interest groups. Most academic departments sponsor organizations designed to foster academic interaction in more informal settings. Other campus clubs include: Aleph Gimel Ain (AGA), Dormitory Women; Epsilon Mu Sigma (EMS), Married Students; Omicron Pi Sigma (OPS), Dormitory Men; Canadian Club; International Club; and Village Singles Club.

**LYCEUM SERIES.** Each year, the College sponsors a series of culturally-enriching concerts, lectures, films, and variety presentations. Walla Walla College students are admitted to the Lyceum Series free of charge.

**REGIONAL OPPORTUNITIES.** In addition to on-campus social activities, WWC students take advantage of a variety of regional cultural opportunities. These include performances by the Walla Walla Symphony, art exhibits, lectures by leading political and entertainment personalities, and live theatrical productions.

## **ATHLETIC PROGRAM**

Walla Walla College places great importance on the physical, as well as the spiritual and intellectual dimensions of education.

**INTRAMURALS.** A highly-organized athletic program in individual and team sports encourages campus-wide involvement at all skill levels. More than sixty percent of WWC students participate in at least one intramural activity.

**FELLOWSHIP OF CHRISTIAN ATHLETES (FCA).** WWC students with high athletic ability and the desire to share their love for Christ are encouraged to participate in the FCA program. Program sports currently include football, basketball, volleyball, softball, and track and field.

**REGIONAL OPPORTUNITIES.** Regional sporting opportunities include wind-surfing on the nearby Columbia and Snake Rivers, hiking in the Blue Mountains, or skiing at any of several ski resorts.

## **STUDENT HOUSING**

**RESIDENCE HALLS.** Walla Walla College provides on-campus housing for all unmarried students. Campus residence hall options include:

**Foreman/Conard Hall.** This residence hall complex houses 450 women. The Foreman portion is a seven-story high-rise for upper-division women, featuring elevator service and air-conditioned rooms. The Conard portion includes a large worship room, recreation room, and lounges. Foreman/Conard provides laundry and kitchen facilities.

**Sittner Hall.** Accommodating approximately 400 men, this residence hall includes lounges, a recreation room, and health club facilities.

**Sittner East.** Sittner East occupies the front wing of Conard Hall, and accommodates 100 upper-division men.

**Hansen Hall, Portland Campus.** Hansen Hall is designated for unmarried students, and is located adjacent to the WWC School of Nursing and the Portland Adventist Medical Center.

All unmarried students taking six or more academic credits are required to live in one of the above college residence halls and to eat in the college cafeteria.

Under special circumstances, students may apply to the Vice President for Student Administration for permission to live off campus in an officially approved home. Applications will be processed only at the beginning of a quarter, and failure to secure official approval will invalidate the student's registration. Students who have received approval for off-campus living may be called into the college residence halls at any time.

**APARTMENTS.** The College owns 50 one- and two-bedroom apartments which are reasonably-priced and available for married students. Apartments in the community, furnished and unfurnished, are also available.

## STUDENT SERVICES

**ACADEMIC ADVISEMENT.** Academic Advisement is an important part of a student's progress through a chosen program of study at WWC. Academic advisers assist students in their consideration of life goals and in developing an educational plan to meet those goals. Academic advisers provide students with information about career options, academic policy, procedures, resources and programs. Specific attention is given to appropriate placement and satisfactory academic progress. If a student fails to maintain satisfactory academic progress, the academic adviser works with the student to develop a program to remedy the situation.

All degree seeking undergraduate students are expected to have an academic adviser at all times. Freshman are assigned specially selected academic advisers to assist them in making the most of their college experience. Preprofessional students are assigned academic advisers who are familiar with specific professional programs.

Adviser signatures are required on registration and add/drop forms of undergraduate students. In the event of temporary unavailability of the assigned adviser, the student should first consult the department chair. If the chair is not available, the forms may be signed by the Director of Academic Advising. It is the student's responsibility to inform the assigned adviser of the action.

**CHANGE OF MAJOR/MINOR AND ADVISER.** Students who wish to declare or change a major/minor are expected to complete a "Change of Major/Adviser" form in the Office of Academic Advising or in the Records office. If the declaration of major requires the selection of a new adviser, the student must complete the change of adviser process including an interview with the Director of Academic Advisement. Students are assigned a secondary adviser for the chosen minor, and the student is expected to consult with the adviser to insure appropriate course selection.

Students who are pursuing secondary education certification must consult with the Certification Secretary in the Education Department.

**CAMPUS COMPUTER CENTER.** The College provides computer services to all faculty, staff, and students through its Campus Computer Center. Administrative computing is handled by a Hewlett-Packard HP 3000 Series 935. Scientific computing is supported on a DEC MicroVAX running VMS and an HP 9000 running UNIX.

A campus-wide PC network running Novell Netware supports a wide variety of software applications for faculty, staff, and student use. Several popular software programs are available for campus computer users in each of the following categories: word processing, spreadsheets, databases, programming languages, graphics, computer-aided design, communications, mathematical and data analysis, tutorials, and electronic-mail.

Three clusters of high-performance (286 and 386) computers are available for student use. Each of these stations has a high-resolution color screen, a mouse, and access to the campus wide network. Access to multi-pen color plotters is also available.

Use of campus computer facilities, software, training, and other services of the Campus Computer Center are provided free of charge to all WWC students.

**CAREER DEVELOPMENT CENTER.** The Career Development Center assists students by providing early career exploration and guidance, offering opportunities to obtain valuable work experience, and providing graduates with job search and placement assistance or information on graduate or professional school programs.

Career decision making services include a career library of up-to-date information on occupations and professions; career planning courses which help students identify interests and career values, and develop goal-setting and decision-making skills; an interactive computer service providing information about occupations, employment potential, salary range etc.; workshops designed to prepare students for job search and employment; and career information presented by representatives from major employers and professional and graduate schools.

**Cooperative Education.** In selected programs, students may blend their academic study with career-related, paid, productive employment in business, industry, government, or social agencies. Experiences are arranged through the combined efforts of the co-op coordinator and the student. Placements are either full or part-time. Duration of appointment is typically for one quarter but in many cases may be extended or repeated. Supervision and evaluation are the joint responsibility of a professor from the student's major field of study, the Coordinator of Cooperative Education, and the employment supervisor.

Participants in the Cooperative Education Program will have opportunity to gain valuable work experience, earn college credits and enjoy a significant financial advantage. Many of the usual costs of education cease or are reduced during the cooperative education experience, and the rates of pay often are quite attractive. Students wanting further information about placement should get in touch with the Coordinator of Cooperative Education at the Career Development Center. Information is also available from faculty/advisers in participating departments.

**Placement Services.** Anyone seeking employment assistance should apply for placement services as early as possible. Services include resume writing, interview techniques, job search assistance for full-time career positions, or summer employment opportunities, as well as interview appointments with various companies and professional organizations. A Placement Directory is published annually and distributed to more than 600 North American organizations. The directory includes personal data and a photograph of each graduating candidate. Individual placement files are established and maintained at the student's request.

**COUNSELING AND TESTING CENTER.** The services of the Counseling and Testing Center are designed to help students deal with the pressures of college life. Students can receive help in dealing with personal problems, in learning more about themselves, and in planning their future.

The counselors on staff are qualified to discuss a wide variety of issues, including loneliness, depression, stress, time management, test anxiety, study skills, relationship problems, eating disorders, incest and rape survival, dysfunctional family situations, and marital and premarital counseling. Issues may be worked through on an individual basis or in a group setting, and all counseling is strictly confidential.

Long-term career counseling is also provided by the Center. In-depth investigation of a student's interests, personality, values, skills and expectations is conducted through a variety of career testing services.

Counseling sessions are free. A fee is charged for some of the tests. Counselors are available primarily on an appointment basis by calling 527-2666, or by visiting the Center on the main floor of Sittner East.

**Standardized Tests.** The Counseling and Testing Center is the official Testing Center for most standardized tests administered on campus. These tests are given on certain dates specified in advance by the testing companies, and most require advance registration through the Testing Center. Following are some of the tests administered by the Center:

- American College Testing (ACT)
- Allied Health Professions Admission Test (AHPAT)
- College-Level Examination Program (CLEP)
- Comprehensive English Language Test (CELT)
- Dental Admission Test
- English Placement Test
- Graduate Management Admission Test (GMAT)
- Graduate Record Examination (GRE)
- Home Study Institute Correspondence Tests
- Law School Admission Test (LSAT)
- Medical College Admission Test
- Optometry Admission Test (OCAT)
- Test for Entrance into Teacher Education Programs ( TETEP)
- Test of English as a Foreign Language (TOEFL)

**STUDENT ASSISTANCE PROGRAM.** Walla Walla College adheres to the Seventh-day Adventist philosophy of healthful living and abstinence from all harmful substances. Recognizing that not all college students make choices consistent with

this philosophy, the Student Assistance Program provides individualized assessment, testing, counseling and referral services. This office works closely with residence hall deans and the Vice President of Student Administration to insure that students receive adequate help and support. To continue enrollment, students must follow the recommendations of this group. The student will bear the moderate cost associated with assessment and treatment of chemical dependency.

**KGTS.** Providing primarily Christian music and programming to Eastern Washington and Northeastern Oregon, KGTS is federally licensed as an educational, community-service station. The goal of the station is designed to benefit people to each level of their Christian experience—providing a vehicle of growth, stimulating further study of God's Word, and giving encouragement and companionship for its listeners. Owned by Walla Walla College and staffed by students, the station also serves the academic needs of the Communications Department by training students in broadcasting, station management, sales and development, news, engineering, and research. KGTS is funded by listeners, local business underwriters, Walla Walla College and churches.

**LIBRARY.** The combined WWC libraries contain over 160,000 volumes, with an average of 3,250 volumes added annually and holds over 1,000 current periodical titles.

**Peterson Memorial Library.** The main catalog, LaserCat, is computerized using CD-ROM technology. In addition to WWC's holdings, it gives access to collections in over 420 other libraries, mainly in the Pacific Northwest. LaserCat is also available on the campus computer network. Periodical indexes, including the computerized InfoTrac II, and other bibliographical aids are also available. On-line reference searching of indexes and abstracts is available through DIALOG. Reading room accommodations, the open-shelf system, and periodical room enhance the study experience. Microform readers make accessible microforms of scholarly material. In addition, the library's Audio-Visual department provides a small collection of videos and equipment for viewing various media.

**Curriculum Library.** Located in Smith Hall, this library contains a large selection of elementary and secondary textbooks and children's literature. A collection of mounted pictures, filmstrips, tapes and phonorecords supplement those held by the main library.

**Portland Campus Nursing Library.** This facility serves the specific needs of nursing students obtaining clinical practice on WWC's Portland, Oregon campus.

Resources in other libraries are available to students and faculty members through the library's participation in the Resource Sharing Program, and the Western Library Network. WWC students with validated identification cards also have access to the library facilities of Whitman College, a private liberal-arts college located in downtown Walla Walla.

**STUDENT HEALTH SERVICE.** Clinical facilities, nurse practitioner, physician consultations, medication, lab testing, and medical supplies are available for students requiring medical attention. More serious medical and surgical services can be obtained through various outpatient clinics or local hospital facilities. Student Health

Service personnel will assist with insurance billing; however, financial responsibility for hospital care rests with the student.

Students on the Portland campus receive similar health services through a contracted service with Drs. Luther Johansen and Laurens Johansen. Chronic illnesses may be treated through Portland Adventist Medical Center or any local facility of choice. In case of hospitalization, the student must make financial arrangements with the facility.

**TEACHING LEARNING CENTER.** The Teaching Learning Center offers drop-in tutoring free of charge and private tutoring for a minimal fee to all students enrolled in Walla Walla College. The business, mathematics, computer, modern languages, reading, science, and writing labs in the Center offer help to students needing to improve their skills before enrolling or to students enrolled in courses. Help in additional areas is available upon sufficient demand. The center also offers specific seminars to help students improve academic skills.

## STUDENT RIGHTS AND RESPONSIBILITIES

To maintain a proper atmosphere for Christian growth and maturity, and to ensure that the rights of all students are respected, the College expects students to act as responsible citizens, abiding by local, state, and federal laws and to conduct themselves honorably. Although students of all religious persuasions are welcome, the College does expect students to live as members of a Christian community as detailed in the *Student Handbook*.

## PUBLIC INFORMATION

The Family Educational Rights and Privacy Act of 1974, provides that the College will make every effort to maintain student records in confidence. With the exception of faculty and administrative officers who have legitimate need to use student records, no student information other than public information will be given to any third party without the consent of the student.

Students have the right to withhold the disclosure of any or all of the "Directory Information" listed below.

Walla Walla College has designated the following categories as directory information: the student's name, address, telephone number, date of birth, class standing, major field of study, class schedule, dates of attendance and graduation, degrees and awards conferred, and the most recent previous educational institution attended.

The above information is released except when students indicate in writing to the Academic Records Office that the information is to be withheld.

Copies of the Act, amendments subsequent to this Act, and Department of Education guidelines are available in the Academic Records Office. Students have the right to inspect and review official records, files, and data directly related to them kept by any office of the College. Request should be made in writing to the administrator responsible for the record and will be processed within 45 days from the date of filing.

# ADMISSION TO THE COLLEGE

Walla Walla College welcomes to its school family any student who wishes to obtain a quality education in a Christian environment. It is committed to equal opportunity and provides for all students the same rights, privileges, programs, and activities. The College does not discriminate on the basis of sex, race, handicap, color, or national or ethnic origin in its admissions, its educational, financial, employment, and student life programs and policies, or any other college-administered programs.

## ADMISSION PROCEDURE

Prospective students submit an application available from the Office of Admissions and Marketing. Applications should be made as early as possible prior to the quarter in which study is to begin.

**APPLICATION FEE.** A \$20 application fee is expected and should be submitted with the WWC Application for Admission. If payment the fee is not possible, please write a letter of explanation to accompany the application.

**OFFICIAL TRANSCRIPTS.** Official transcripts need to be requested by the student from the registrar of each institution attended, and they should come to the Office of Admissions and Marketing directly from that institution. Official high school transcripts or GED scores are also requested, unless the applicant has completed a baccalaureate degree.

All records become the property of the College. Transcripts, applications and other credentials submitted for admission will be destroyed after two years if the applicant does not enroll in the College.

**LETTER OF ACCEPTANCE.** After applicants' transcripts and recommendations have been received by the College and approved by the Admissions Committee, prompt notification of acceptance is sent. Applicants should not consider themselves accepted (and should not plan on residence or work on the campus) until they have received an official letter of acceptance.

**ROOM DEPOSIT.** A \$100 refundable room deposit is required of all residence-hall students. This should be sent to the Accounting Office as soon as possible after acceptance, to reserve a room for the year. See the Financial Information section of this bulletin for residence hall rates.

**COLLEGE ENTRANCE EXAMINATION.** ACT (American College Testing Program) test scores can be submitted by all entering freshmen and transfer students with fewer than 30 quarter credits. Students without these test scores will be provisionally registered (provided other criteria are met) until they have taken the ACT during one of the regularly scheduled on-campus test dates during their first quarter in residence.

All Seventh-day Adventist senior academies in the North Pacific Union Conference are testing centers for ACT, providing these services on a non-Saturday schedule. High school students and others not enrolled at these academies are invited to write or telephone the guidance counselor at the academy of their choice to obtain information regarding participation in the ACT testing program.

**MEDICAL INFORMATION.** The Student Health Service of the College is directed by a registered nurse. In order to administer efficient service both preventatively and in case of illness or accident, the College requires all students to complete a Personal Health Assessment record, inclusive of immunization status. Forms are available from the office of Admissions and Marketing.

Immunization documentation required for admission includes: (a) tetanus-diphtheria (DT or Td) booster within the past 9 years; (b) 4 or more oral polio vaccine (OPV); and (c) a measles-mumps-rubella (MMR) vaccine received in or after 1980. MMR and Td are available through Student Health Service.

## ADMISSION STATUS

The following entrance requirements apply to students entering all bachelor and some associate degree programs. Students entering associate degree programs should inquire concerning possible variations in entrance requirements.

Walla Walla College practices a selective admissions policy. To be considered for admission to the College, students should demonstrate scholastic achievement, good character, financial support, and good health.

Minimum requirements for admission include:

Graduation and official transcript from an accredited secondary school or the completion of the GED Test with satisfactory scores (contact the Assistant Director of Admissions for additional information).

Completion of the ACT Test. (can be taken at WWC)

Satisfactory recommendations.

Students with secondary school backgrounds should present the following semester credits for admission:

|           | Semester Credits |
|-----------|------------------|
| English   | 40               |
| History   | 20               |
| Algebra I | 10               |

|                    |    |
|--------------------|----|
| Geometry           | 10 |
| Science            | 10 |
| Laboratory Science | 10 |

Provisional admission may be granted to applicants who lack one or more of the subjects required for entrance, or whose grade-point average is below 2.00. All students accepted on a provisional basis should check with the Director of Academic Advisement about specific requirements for meeting their deficiencies. Students need to make up deficiencies during their freshman year to qualify for admission to the second year of studies. Students need to satisfy entrance requirements in mathematics before enrolling for a college-level (above 100 level) mathematics class. Concurrent enrollment may be allowed with permission from the Mathematics Department.

In addition to the requirements for admission, the following semester credits are highly recommended for entrance into the college curriculum:

|                                                                                | Semester Credits |
|--------------------------------------------------------------------------------|------------------|
| Foreign Language*                                                              | 20               |
| Social Studies                                                                 | 10               |
| Science (additional)                                                           | 10               |
| Mathematics** (additional course should be taken in the junior or senior year) | 10               |

\*Students completing two years of the same foreign language at the secondary level will fulfill the elementary language requirements for the bachelor of arts degree.

\*\*Some departments may require 10 semester credits of Algebra II, including Trigonometry. Please check departmental requirements.

## ADMISSION TO CHOSEN MAJORS

Certain major areas of study require specific subjects prior to admission. The following departments require an additional 10 semester credits of Algebra II, which should include Trigonometry:

|                  |             |
|------------------|-------------|
| Chemistry        | Mathematics |
| Computer Science | Physics     |
| Engineering      |             |

The Business Department recommends 10 semester credits of Algebra II.

Applicants who are deficient in subjects required for entrance to their chosen major will need to:

1. Present secondary credit to cover the deficiency by the end of the first year of registration in that major; or
2. Complete a waiver examination by the end of the first year of registration in that major; or
3. Take additional college course work in areas approved by the major adviser.

## ADMISSION BY EXAMINATION

**HIGH SCHOOL EQUIVALENCY.** Mature persons who have not completed secondary school or who are unable to furnish a transcript of credits may be admitted to freshman standing on the basis of a high school equivalency diploma. Such students will have obtained an average standard score of 50 on the five sections of the General Education Development (GED) Test, with no score less than 45 on any one section. All students who are admitted with GED scores will take placement tests in Math and English.

**CALIFORNIA HIGH SCHOOL PROFICIENCY EXAMINATION.** Applicants who are under 18 years of age but have successfully passed the California High School Proficiency Examination may be considered for admission provided that (1) a minimum of two years of high school has been completed; (2) written parental permission has been given; (3) the application letter lists reasons, goals, and objectives for acceleration. A copy of this letter will be sent to the applicant's high school principal and residence dean/counselor for their reactions and recommendations.

## NONMATRICULATED ADMISSION

**NONMATRICULATED ADMISSION.** Mature individuals ineligible for regular admission may be admitted as nonmatriculated students and may register for any course for which they have sufficient background. Nonmatriculated students are not eligible for a degree; however, by completing requirements for regular admission, they may become degree candidates.

**GUEST ADMISSION.** Students who have been in residence at other institutions of higher learning and who are not candidates for a degree from Walla Walla College may be classified as guest students by showing evidence that they are in good and regular standing at the university or college to which the credits are to be transferred.

**SPECIAL STUDENTS.** Students who are currently enrolled as students in secondary school and who have permission from their principal may register for selected Walla Walla College courses.

## ADMISSION OF INTERNATIONAL STUDENTS

Applicants need to have met the college or university entrance requirements of their native country. If English is not the native language, international students must demonstrate ability to pursue studies in the English language by passing the University of Michigan Test of English Language Proficiency with a minimum score of 85. Questions regarding this test should be directed to Testing and Certification, English Language Institute, University of Michigan, North University Building, Ann Arbor, Michigan 48104. Students presenting Test of English as a Foreign Language (TOEFL) scores of 500 and above need not take the University of Michigan Test. In addition to tests taken abroad, students will be evaluated after arrival at Walla Walla College for appropriate placement in English. Before final acceptance is given and an I-20 form sent to the applicant, the applicant will have \$1,500 on deposit with the College. (Canadian students are exempt.) Please see also the "International Students" section in the Financial Information section of this bulletin.

## ADMISSION OF TRANSFER STUDENTS

**ACCREDITED COLLEGES.** Applicants who have attended accredited institutions of higher education and who have official transcripts showing a minimum grade-point average of 2.00 on all course work taken may be admitted to advanced standing. Students transferring from other institutions may be required to take validating examinations should they wish credit to be transferred to Walla Walla College. Failure to indicate at the time of application that work has been taken at other institutions invalidates admission.

**COMMUNITY COLLEGE.** A maximum of 96 quarter hours may be transferred from an accredited community or two-year college (see also Concurrent Registration).

**ENGINEERING TRANSFER STUDENTS.** Students enrolled in the Engineering affiliation program will be allowed to graduate under any official Walla Walla College bulletin dated not more than three academic years prior to their first year on this campus. Students who withdraw from engineering studies for a continuous period of one year or more will forfeit the right to graduate under bulletins which were current prior to their withdrawal.

**SENIOR TRANSFER STUDENTS.** Transfer students with senior standing are required to be in residence three consecutive quarters and complete a minimum of 36 quarter hours, including nine quarter hours of upper-division work in the major and three upper-division quarter hours in the minor, and meet all degree requirements.



Typical dress for class during early 1900's

# ACADEMIC INFORMATION AND POLICIES

## ACADEMIC POLICIES

Academic policies developed and announced in the course of the school year have the same application as those published in this bulletin. Students wishing any exception to published policy may petition to the Academic Standards Committee. Forms for this purpose are available at the Academic Records Office.

## REGISTRATION

The academic year is divided into four academic quarters, Autumn, Winter, Spring, and Summer. All students are required to register on designated days at the beginning of each quarter. Registration is official only after all procedures required by the College have been completed and all fees have been paid. **Students who do not receive financial clearance prior to the first day of classes will have their schedule cancelled, and will have to re-register on a space available basis.** Faculty advisers are available to assist students with registration and in planning academic programs.

Students are not officially registered for a course until the instructor has been informed by the Academic Records Office. Students are not permitted to attend courses for which they have not registered. Students will not be permitted to register for two classes which meet concurrently.

**FRESHMAN ORIENTATION.** All entering freshmen are required to attend the college orientation program, which is held prior to each term. This program includes instruction concerning study skills, registration process, college regulations, course placement, and academic advisement.

**LATE REGISTRATION.** Students citing unusual circumstances may register after the designated registration periods; however, they will be charged a late registration fee, and may expect a reduction in course load. Students may register after the first week of a quarter only with permission of the Registrar and the instructors involved.

**CHANGES IN REGISTRATION.** Changes in registration may be made during the first four days of instruction without charge. Course changes after that require advance permission from the instructor and from the student's academic adviser; there is also a fee for each course added or dropped. Courses may not be added after the tenth day of any quarter.

**WITHDRAWALS.** Students withdrawing from all classes must submit an official College Withdrawal Form to the Academic Records Office.

Students withdrawing from individual courses must submit a Change of Registration voucher to the Academic Records Office signed by the instructor involved and the student's adviser. The final date for dropping a course is listed in the academic calendar.

**CONCURRENT REGISTRATION.** Students registered at Walla Walla College and wishing to enroll for courses in other colleges must have prior approval of the Vice President for Academic Administration. Students wishing to take courses at Whitman College under the exchange program must make prior arrangements with the Vice President for Academic Administration.

**ADMISSION TO UPPER DIVISION.** A student may register for upper-division courses provided that he/she has completed ENGL 121, 122, 123, (College writing or its equivalent) and has completed 45 quarter hours of college course work.

**SENIOR REGISTRATION FOR GRADUATE COURSES.** Seniors who wish to take graduate (500) courses must submit to the Graduate Council for evaluation an approved senior outline and transcript. Approval to register for a course is given only after determination of eligibility for admission to the Graduate School. Credits taken without completed graduate application forms and registration approval will not apply to a graduate program. For information on graduate program admission, students should consult the *Graduate Bulletin*.

**AUDIT.** Students may audit classes provided they (1) register in the usual manner; (2) receive prior approval of the **instructor**, because certain classes and labs may not be audited; (3) pay any special fees, as appropriate; and (4) pay one-half tuition. Students auditing courses are not required to do class assignments or take tests. They receive no grades and no academic credit. **Students may not take challenge or waiver examinations for courses they have audited.** Students with a cumulative grade-point average of at least 3.00 and a course load of at least 13-16 hours (excluding audit courses) pay a special fee if their total credits exceed 16 hours. See fee section of this Bulletin.

## **COURSE LOAD**

The academic study load at Walla Walla College is computed in quarter hours, quarter hour normally representing one class meeting per week or three hours of laboratory work per week. Thus, a three-quarter-hour class would meet three times each week. For each quarter hour of credit earned, a student is expected to spend at least two clock hours a week in outside preparation or three hours a week in supervised study or laboratory work.

The normal course load is 16-17 hours per quarter. Sophomores, juniors, and seniors may request to register for 18 quarter hours if their grade-point average for the previous quarter was 3.00 (B) or better. Undergraduate students on academic probation will carry a reduced course load.

Students in college residence halls must register for a minimum of 12 hours per quarter, except seniors in their final quarter who need less than 12 quarter hours to

graduate. Requests for exceptions are processed through the Student Administration Office.

The following minimum study loads will satisfy the parties indicated; however, in order to graduate in four years the student should take 16 hours per quarter.

|                                   |                  |
|-----------------------------------|------------------|
| Financial Aid . . . . .           | 12 quarter hours |
| Immigration Authorities . . . . . | 12 quarter hours |
| Social Security . . . . .         | 12 quarter hours |
| Veterans . . . . .                | 12 quarter hours |

## CLASSIFICATION OF STUDENTS

**FRESHMEN.** Students who have fulfilled the entrance requirements for their chosen course of study and have completed less than 45 quarter hours are classified as freshmen.

**SOPHOMORES.** Students who have met the entrance requirements of their chosen course of study and who have completed a minimum of 45 quarter hours with a grade-point average of at least 2.00 are classified as sophomores.

**JUNIORS.** Students who have completed a minimum of 90 quarter hours with a grade-point average of at least 2.00 are classified as juniors.

**SENIORS.** Students who have completed a minimum of 136 quarter hours with a grade-point average of at least 2.00 are classified as seniors. Seniors who can complete all degree requirements during the current school year are eligible for class membership.

**POSTGRADUATE STUDENTS.** Students who have completed a baccalaureate degree and are registered for work which does not ordinarily apply toward an advanced degree are classified as postgraduates.

**GRADUATE STUDENTS.** Students who have been accepted into one of the graduate programs are classified as graduates.

**NONMATRICULATED STUDENTS.** Mature individuals ineligible for regular admission are considered nonmatriculated. (See Admission to the College: Non-matriculated Admission)

**SPECIAL STUDENTS.** Students who are currently enrolled as students in secondary school and who have permission from their principal to take certain college-level courses are classified as special students.

## GRADING SYSTEM

The grade-point average is computed by totaling the grade points of all courses and dividing by the total quarter hours for which grades are received. Only the best grade of a repeated course will be calculated in the grade-point average. The AU, I, NC, S, W and X are disregarded in computing the grade-point average. A report of grades earned is sent to students (and in most cases parents) at the end of each quarter.

The following grades and point values are used:

|      |                          |     |                               |
|------|--------------------------|-----|-------------------------------|
| A    | — Excellent              | 4.0 | grade points per quarter hour |
| A-   | .....                    | 3.7 |                               |
| B+   | .....                    | 3.3 |                               |
| B    | — Above Average          | 3.0 |                               |
| B-   | .....                    | 2.7 |                               |
| C+   | .....                    | 2.3 |                               |
| C    | — Average                | 2.0 |                               |
| C-   | .....                    | 1.7 |                               |
| D+   | .....                    | 1.3 |                               |
| D    | — Below Average          | 1.0 |                               |
| D-   | .....                    | 0.7 |                               |
| F    | — Failure                | 0.0 |                               |
| S/NC | — Satisfactory/No Credit | 0.0 |                               |

Indicates that credit earned was satisfactory (C or better) or that the credit was not earned because performance did not meet the minimum standards for a satisfactory grade. Some professional schools calculate the NC mark as an F grade when computing the grade-point average.

In place of grades, the following symbols are used:

**I** — Incomplete

The Incomplete is given in case of incomplete work due to justifiable cause and must be made up three weeks before the close of the following quarter (excluding summer term). When an Incomplete is turned in to the Academic Records Office, the instructor will also submit a course grade taking into consideration all the course requirements. This grade will be recorded if the Incomplete is not made up in the allotted time.

**W** — Official Withdrawal

Courses dropped during the first two weeks of the term will not appear on the student's record. Courses dropped thereafter will appear on the permanent record with a W.

**X** — Unofficial Withdrawal

Indicates that the student discontinued class attendance early in the quarter but failed to withdraw officially.

**AU** — Audit

**GRADE ERRORS AND CORRECTIONS.** Grade reports are issued at the close of each quarter. Upon receiving a grade report, the student should carefully check the accuracy of the courses recorded, quarter hours, and grades. Any error should be reported within two weeks to the Academic Records Office. Grades may be changed only if a teacher or recording error has been made.

## ACADEMIC PROBATION

**ADMISSION WITH PROBATION.** In a few cases, WWC admits students on probation. Students who do not meet all or part of admissions requirements are screened carefully and informed of their probationary status in writing. A letter specifies the conditions for admission. Students are assigned a special adviser in addition to their regular adviser and must meet all of the conditions set forth in their letters of admission. Students who fail to meet these conditions are subject to dismissal.

**ACADEMIC WARNING.** A student whose cumulative grade point average is 2.00 or higher, but whose term average is below 2.00 receives a warning letter from the Associate Vice-President for Academic Administration. A copy of the letter is sent to the student's academic advisers to ensure appropriate advisement for the ensuing term.

**ACADEMIC PROBATION AND DISMISSAL.** When a student's cumulative grade point average falls below 2.00, that student is automatically placed on academic probation. Within 5 working days after quarter grades are issued, probationary status is communicated to the student in writing by the Vice-President for Academic Administration. A copy of the letter is sent to the student's academic adviser.

Academic probation entails the following conditions, each intended to assist a student in improving scholastic performance:

1. enrollment is limited to 12 quarter credits which includes any incomplete that is outstanding. Students are advised to repeat courses with a grade less than C before continuing with advanced course work;
2. independent study or correspondence credits are not permitted;
3. a biweekly conference with the academic adviser and a midterm progress report are required;
4. extracurricular activities which necessitate class absences are not permitted;
5. the student is not permitted to hold office in any student organization or serve as a student missionary or taskforce worker; and
6. the student is not permitted to pre-register for the following quarter; registration is allowed only after grades from the current term are evaluated.

Note: A student receiving financial aid must also meet "satisfactory progress" standards adopted by Student Financial Services. See the Financial Policies section of the bulletin for details.

If a student's cumulative grade point average is below 1.75, the following conditions must be met in addition to those listed above:

1. the student must sign an "academic contract" and meet all of its requirements;
2. the student must participate in a counseling and/or testing program to confirm an appropriate major; and
3. the student will meet with a probation adviser on a regular basis in addition to the biweekly sessions with the assigned academic adviser.

Probationary status typically extends for one quarter, during which the student must demonstrate academic ability and seriousness of purpose. This requirement is met by a grade point average for the quarter of at least 2.3 or C+ average with no F grades.

A student meeting these criteria may continue on academic probation for the ensuing quarter, bound by the conditions outlined above, until such time as the overall grade point average reaches at least 2.00. A student failing to meet these criteria is subject to academic dismissal.

Academic dismissal is by action of the Academic Standards Committee upon review of the student's overall academic progress and written reports from the student's advisers. The Vice-President for Academic Administration notifies the student, in writing, of the committee's decision and the rights and process of appeal.

Following at least six month's absence from the college, a student dismissed for academic reasons may formally apply for readmission. The Admissions Committee will review the application and seek recommendations from the Academic Standards Committee. Convincing evidence will be required which demonstrates the student's commitment and potential for academic success.

**CLASS ATTENDANCE.** Students are responsible for punctual and regular attendance at all classes for which they are registered. Missing instruction for any reason may jeopardize the course grade.

**FINAL EXAMINATIONS.** All students are expected to take final examinations as scheduled. Special administrations are arranged by petition to the Vice President for Academic Administration three weeks prior to the close of the quarter. A special fee for each examination is assessed. See fee section of this Bulletin.

**TRANSCRIPTS.** Official transcripts are requested from the Academic Records Office. This request must be in writing using a transcript request form available in the Academic Records Office or by letter, including student's signature. One transcript of a student's record is supplied without charge. A fee of \$3 per transcript is charged thereafter. Two days is the normal time for providing a transcript. Transfer credit is not recorded after a student has ceased residence in the College.

## **ACHIEVEMENT RECOGNITION**

**DEAN'S LIST.** The Vice President for Academic Administration maintains a list of those students who have earned a minimum of 15 hours per quarter (excluding "S" credits and incompletes) and have achieved a grade-point average of 3.50 or better.

**GRADUATION WITH HONORS.** Candidates for the baccalaureate degree with the appropriate G.P.A. both overall and for credits earned at Walla Walla College will be awarded the degree with the following honors distinction:

- 3.50 – 3.74 *cum laude* (with distinction)
- 3.75 – 3.89 *magna cum laude* (with great distinction)
- 3.90 – 4.00 *summa cum laude* (with highest distinction)

## **CREDIT BY EXAMINATION**

Walla Walla College recognizes that students who have independently achieved college-level proficiency on the basis of work experience and study may receive credit for what they already know by challenging, validating, or waiving comparable classes offered by the College. (Certain college classes may not be challenged.)

**APPLICATION FORMS.** A current student wishing to obtain credit by examination must apply. Permission from the chair of the department in which the course is offered and permission of the course instructor are required. Application forms for challenge, validation, and/or waiver examinations may be obtained from the Academic Records Office. A student must have approval for an exam prior to taking an exam. Fees for these examinations are listed under the heading "Special Fees" in the Financial Information section of this Bulletin.



*College Hack, used for early transportation*

**RESTRICTIONS.** The following restrictions apply to all credit earned by examination.

1. A student must have an approved examination application on file in the Academic Records Office before credit by examination can be recorded on the permanent record.
2. A student must be currently enrolled before credit by examination can be recorded on the permanent record.
3. Credit by examination may be earned only if a student has not already earned credit in a similar course, or taken advanced courses.
4. A maximum of 24 quarter hours by examination may be counted toward a baccalaureate degree and a maximum of 12 quarter hours may be counted toward an associate degree excluding validation examinations.
5. Grades are issued as on normal test scores, and all grades are recorded on the permanent record of the student.
6. Examinations may not be repeated.
7. Repeat course work and F grades are not open to credit by examination.
8. Students may not take challenge or waiver examinations on courses they have audited.
9. Examinations must be taken prior to the last 3 weeks of any quarter.

**CHALLENGE EXAMINATIONS.** A challenge examination is a college-prepared or a standardized examination which, if successfully completed, will yield regular college credit. The student must take the examination before enrolling for further study in the field of the examination. The challenge examination may not be repeated and must be taken prior to the final quarter of residence.

**ADVANCED PLACEMENT EXAMINATION (CEEB).** Regular college credit may be established by successful completion of an Advanced Placement examination. These tests are graded on a scale of 1 to 5.

**English 121, 122; or 141, 142 College Writing**

Students obtaining a 3, 4, or 5 will receive 6 quarter hours, which will fulfill two quarters of the College Writing requirement. All students must take ENGL 123, 143, or 323.

**History 221, 222 History of the United States**

Students obtaining a 4 or 5 will receive 8 quarter hours, which will fulfill two quarters of the History requirement.

**Mathematics 181, 281 Analytic Geometry and Calculus I, II**

Students obtaining a 3 or higher will be awarded 8 quarter hours for MATH 181 and 281.

**COLLEGE-LEVEL EXAMINATION PROGRAM (CLEP).** There are two types of CLEP examinations, General and Subject. Walla Walla College grants credit for Subject Examinations only. The Counseling and Testing Center administers these tests in the third week of each month. Candidates should consult with the center for application forms and other specific information including fees. These tests may not be repeated.

A number of subject-matter examinations are offered by CLEP. Students obtaining the percentiles established by the following departments will receive credit toward that basic requirement. Students wishing credit in courses other than those listed below should consult the appropriate departmental chair.

**Biology 101, 102, 103 General Biology**

Students obtaining the 70th percentile in the Biology examination will receive 12 quarter hours, which will fulfill the basic science requirement.

**English 121 College Writing**

Students who earn a 60th percentile on the English examination will receive credit for ENGL 121. All students must take ENGL 122, 123 or 142, 143.

**History 221, 222 History of the United States**

Students achieving the 60th percentile in either or both of the American History subject-matter examinations will receive 4 or 8 quarter hours toward fulfillment of the basic history requirement. The CLEP subject-matter test covering early colonization to 1877 may substitute for History 221; that covering 1865 to the present may substitute for History 222.

**Mathematics 117 Precalculus**

Students obtaining the 50th percentile in the College Algebra-Trigonometry test will receive 5 quarter hours, which will fulfill the basic math requirement.

**Mathematics 121 Fundamentals of Mathematics**

Students obtaining the 50th percentile in the College Algebra test will receive 4 quarter hours, which will fulfill the basic math requirement.

### **Sociology 204 General Sociology**

Students obtaining the 60th percentile in the General Sociology examination will receive 4 quarter hours, which will fulfill the basic social studies requirement.

**VALIDATION EXAMINATIONS.** Students who have transcripts from nonaccredited colleges and/or transcripts showing nontransferable college courses may request to take validation examinations in courses which are comparable to those offered by Walla Walla College. Upon successful completion of the examination, the student will be given credit in the comparable College course.

**COURSE WAIVER EXAMINATIONS.** A student may meet an academic requirement, within specified limits, by passing a waiver examination at least equal in scope and difficulty to a final examination in a course. Successful completion of the examination waives the curricular requirement, but does not result in credit earned. Thus, it does not reduce the total number of quarter hours required for a degree, but will increase the available number of elective hours. The waiver examination is administered by the department in which the course is offered and may not be repeated. Waiver examinations must be taken prior to the final quarter of residence.

**TRANSFER CREDIT BY EXAMINATION.** Credit earned by examination at other colleges or universities may be transferred provided such credit meets the guidelines used by Walla Walla College for credit by examination.

### **REPEAT COURSES**

Students may repeat a course in which credit has been granted and grades have been received; however, academic credit may be earned only once. Regardless of the number of times a course is repeated, only the best grade will be computed in the grade-point average, though all grades will remain on the permanent record. This repeat work must be taken in a regularly offered class. Challenge examinations and independent or directed study arrangements are not allowed for repeat course work. Repeat course work for which an F has been received must be completed in residence unless permission to do otherwise is granted by the Academic Standards Committee.

### **CORRESPONDENCE WORK**

The College will accept a maximum of 24 quarter hours of approved courses by correspondence toward a baccalaureate degree or a maximum of 12 quarter hours for the associate degree. Correspondence work will not meet upper-division requirements. A student who has failed a course can not make it up by correspondence study. Students must obtain prior approval from their major department chair and Academic Standards Committee in order to carry correspondence work while in college. Correspondence work may not apply on a major unless approved by the department chair concerned. Application forms are available from the Academic Records Office. Seniors must have all correspondence work completed prior to the beginning of their last quarter in residence.

The Home Study International, Washington, D.C., is a member of the Seventh-day Adventist school system in the United States, and while we recommend this cor-

responce school, students may take correspondence from any accredited correspondence school. Further information may be obtained from the Academic Records Office.

## EXTENSION COURSE WORK

Extension courses are offered by Walla Walla College on a limited basis. These off-campus courses provide opportunity for academic enrichment, acceleration, and continuing education.

The College accepts extension course credit from other institutions provided the institution offering the courses accepts similar credits toward a degree on its own campus.

## SOUTHEAST ASIA UNION COLLEGE AFFILIATION

Because of the commitment of Walla Walla College to the preparation of Christian teachers and other professionals for southeast Asia, the college has an affiliation with Southeast Asia Union College, in Singapore. Walla Walla College confers approved baccalaureate degrees on those students who fulfill the necessary admission and academic requirements. Courses taken under this program are described in the SAUC *Bulletin* and are indicated as such on the permanent academic record.



Mens' dormitory room during 1920-1930 era

## ADVENTIST COLLEGES ABROAD

Walla Walla College, together with nine other Seventh-day Adventist colleges in North America, founded an organization in 1967 for the purpose of providing opportunities for qualified students to study abroad while completing the requirements of their programs. The ACA program allows students to immerse themselves in the culture and life of the host country and to become conversant in the language. Presently, students may take a full year at Seminaire Adventiste, Collonges-sous-Saleve, France; Colegio Adventista de Sagunto, Sagunto, Spain; and Seminar Schloss Bogenhofen, Braunau, Austria.

Prerequisites for admission to a year of study abroad through ACA are:

1. Admission as a regular student of Walla Walla College. Transcripts will be recorded only for students who have been or who are currently enrolled at Walla Walla College.
2. Competence in the language (minimum: one year of college language or two years of secondary study).
3. A grade-point average of 3.00 in the language and an overall grade-point average of 2.50.
4. A good citizenship record.
5. Application to the Academic Records Office on the special ACA application form.
6. Ability to meet the financial requirements.

Students planning to study under this program must submit a completed application with a \$100 refundable deposit by April 1, as there are usually more applications than spaces available.

All applications and payments for tuition, room, and board are to be made through Walla Walla College before August 1. Any deviation from this schedule by students of Walla Walla College must be arranged in advance with the Office of Student Financial Services.

Students cannot plan on financial credit for work while residing in foreign countries. The student financial aid officer has information on grants and loans available to students for overseas study.

Academic credit may be granted for these studies so that a student may be able to complete a full college year abroad. Prospective students must have successfully completed one year of college French, German or Spanish or the equivalent as applicable. It is recommended that students desiring to participate do so during their sophomore year. Applicants must consult with their major professors, the Modern Language Department and the Registrar prior to enrollment. The Registrar, the Major Department Chair, and the Academic Standards Committee will determine how the credits are applied.

Information and applications may be obtained from the Academic Records Office.

# ACADEMIC PROGRAMS AND GRADUATION REQUIREMENTS

## UNDERGRADUATE DEGREES OFFERED

Walla Walla College offers courses of study leading to the following undergraduate degrees:

- Associate of Science (A.S.)
- Bachelor of Arts (B.A.)
- Bachelor of Music (B.Mus.)
- Bachelor of Science (B.S.)
- Bachelor of Science in Business Administration (B.S.B.A.)
- Bachelor of Science in Engineering (B.S.E.)
- Bachelor of Social Work (B.S.W.)

Walla Walla College is a comprehensive institution of higher education offering not only traditional liberal arts and professional programs, but also preprofessional, special two-year associate degree curricula, and certificate programs for students who may wish to pursue a terminal program of a vocational nature. For a listing of undergraduate areas of study offered see Areas of Study section as listed in this bulletin. For a listing of graduate areas of study offered see the Graduate Bulletin.

## GRADUATE DEGREES

Walla Walla College offers courses of study leading to the following graduate degrees:

- Master of Arts (M.A.)
- Master of Education (M.Ed.)
- Master of Science (M.S.)
- Master of Social Work (M.S.W.)

Students desiring information concerning graduate degree requirements (standards of admission, degree candidacy, curricula, etc.) should consult the *Graduate Bulletin*, which is available from the Office of Admissions and Marketing.

## TEACHER EDUCATION PROGRAM

The Walla Walla College Department of Education and Psychology is authorized by the Washington State Board of Education to recommend both initial and continuing teachers' and principals' credentials. Students who plan to enter the teaching profession with a denominational or state teaching credential should become thoroughly acquainted with the certification requirements as listed in the Education and Psychology section of this bulletin.

## BACCALAUREATE DEGREES

The Bachelor of Arts degree consists of four years of course work that places the student's major field of study in the context of a liberal arts education. To encourage a wide range of studies, the degree requires a greater concentration of general studies courses than do other degrees and a minor in an area distinct from the major, while

it allows a greater number of electives. In the tradition of the liberal arts, all Bachelor of Arts degree majors require foreign language study.

The Bachelor of Science degree consists of four years of course work that places the student's major field of study in the context of a liberal arts education. The degree permits somewhat greater concentration in the field of study and requires fewer general studies courses than does the Bachelor of Arts degree. No foreign language study is required. No minor is required with the exception of Elementary Education.

The Bachelor of Music degree consists of four years of course work primarily in the major field of study with modified requirements in general studies. The degree is offered with a choice of two majors, Performance or Music Education. For the modified general studies program and other specific requirements, see the Music section of this bulletin.

The Bachelor of Science in Business Administration degree consists of a four-year program with concentrations available in accounting, economics, management, management information systems, and marketing. For specific requirements, see the Business section of this bulletin.

The Bachelor of Science in Engineering degree is a four-year program approved by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc., requiring 200 quarter hours of course work. It is designed to prepare students for the profession of engineering and to provide an adequate foundation for graduate studies in civil, electrical, or mechanical areas. For the modified general studies program and other specific requirements, see the Engineering section of this bulletin.

The Bachelor of Social Work degree is a four-year program designed to meet the requirements of the Council on Social Work Education. It permits some specialization and qualifies students for job entry in a variety of social service agencies. For specific requirements, see the Social Work and Sociology section of this bulletin.

## BACCALAUREATE DEGREE REQUIREMENTS

Although general studies are stressed during the first two years of study, students should plan to include certain elementary and intermediate courses in the desired major during the freshman and sophomore years in order to successfully complete the major.

A student who is undecided as to a major field of study may, during the freshman year, explore several fields of knowledge without loss of credit if he plans his choices with an academic adviser. A major should be chosen no later than the end of the sophomore year. The selection of a minor (for Bachelor of Arts degree candidates) and appropriate electives must be made in consultation with and approved by the assigned academic adviser.

Candidates are expected to be fully informed concerning degree requirements and are responsible for their fulfillment. Students shall have the option of meeting degree requirements as published in the bulletin at the time of initial registration or any

bulletin published while in regular attendance. Those missing regular attendance for one full school year (except for Student Missionaries and Task Force workers) must meet the requirements of the current bulletin upon resuming attendance. Students who have submitted a formal application for a degree (Senior outline) to the Academic Records Office and do not graduate will be allowed only two years after the last date of enrollment to complete all degree requirements under the bulletin specified on the approved Senior outline; otherwise the current bulletin requirements must be met.

Degrees are conferred each quarter, but diplomas are issued only in June and August, and graduation is held only in June. The deadlines for completion of all work in order to have the degree conferred at the end of the quarter are:

|                  |                   |
|------------------|-------------------|
| Fall . . . . .   | December 27, 1991 |
| Winter . . . . . | March 27, 1992    |
| Spring . . . . . | June 14, 1992     |
| Summer . . . . . | August 28, 1992   |

Students who complete their work Fall or Winter quarter march in the following June graduation. Those anticipating the completion of an approved degree program during the summer may apply to participate in the June graduation exercises immediately prior to their last summer in residence.

#### Residence Requirements:

1. Degree candidates must be in residence the three quarters preceding graduation.
2. Transfer students must be in residence the three consecutive quarters preceding graduation and must complete a minimum of 36 quarter hours, including 9 upper-division quarter hours in the major and 3 upper-division quarter hours in the minor.

#### General Requirements:

1. **Credits required.** Successful completion of a minimum of 192 quarter hours (200 quarter hours, Bachelor of Science in Engineering), including 60 quarter hours in courses numbered 300 or above, and a cumulative grade-point average of 2.00 or above.
2. **Major.** The completion of a major field of departmental specialization (minimum of 45 quarter hours and a cumulative grade-point average of 2.00). A grade lower than C- will not apply toward a major except in engineering (see Engineering section of this bulletin). At least 21 quarter hours in the major must be numbered 300 or above. The maximum allowed on a major for the Bachelor of Arts degree is 60 quarter hours unless the excess is beyond the 192 quarter hours required for the degree, except for the music major, which is 66 quarter hours. Unless otherwise specified all electives applied to the major must be courses offered by the major department. A course may fulfill requirements for several majors or minors, but credit will apply to only one. Students taking double majors must meet all the degree requirements for each major, including the general studies program.
3. **Minor.** Bachelor of Arts degrees require the completion of a minor of at least 27 quarter hours and a minimum cumulative grade-point average of 2.00, or

completion of an Associate of Science degree, provided it is in an area distinct from the major. Three quarter hours must be courses numbered 300 or above. A grade lower than C- will not apply toward a minor. **A course may fulfill requirements for several majors or minors but credit will apply to only one.**

4. **General Studies Requirements.** The completion of the general studies requirements as specified for the type of degree sought and as outlined below and detailed in the following section (86 quarter hours for the Bachelor of Arts and 74 quarter hours for the Bachelor of Science degree).
5. **Candidacy for degree.** Degree candidates must file a formal application (Senior outline) for a degree, showing the proposed schedule of courses for the senior year, with the Registrar not later than one week after the beginning of the first quarter of the senior year. Appropriate forms may be obtained from the Academic Records Office. Students are not considered candidates for degrees or eligible for senior class membership until officially notified by the Registrar.
6. **Senior Class.** Candidates for degrees must be members of the senior class. The fee is fixed by the class and approved by the President of the College.
7. **Comprehensive Examinations.** A comprehensive examination is required for each major before a degree may be conferred. For some majors the Graduate Record Examination (GRE) subject examination is used as the comprehensive. Where GRE subject examinations are not available for specific majors the academic department will provide a comprehensive examination or project. Students whose majors require that they take the Graduate Record Examination (GRE) should make arrangements at the Counseling Center at least six weeks in advance of the test dates.
8. **Transcripts and Correspondence Work.** June seniors must have all transcripts for correspondence transfer credit on file in the Academic Records Office by May 15, and summer seniors by July 15, in order to receive their degree. **Seniors must have all correspondence work completed prior to the beginning of their last quarter in residence.**
9. **Second Baccalaureate Degree.** Two different baccalaureate degrees may be conferred concurrently or sequentially if the candidate has met all requirements, has completed a total of 237 quarter hours, and has spent a minimum of three quarters (36 quarter hours) in residence.
10. **Applied Music Credit Applicable Toward Baccalaureate Degree.** Not more than 9 quarter hours in applied music (including 3 quarter hours of Ensemble) may be earned toward a baccalaureate degree without an equal number of quarter hours in music courses with prefixes MUCT, MUED or MUHL. Additional hours in applied music may include ensemble hours without restrictions.

## GENERAL STUDIES REQUIREMENTS

**Objectives.** The general studies courses are designed so that students may increase both their breadth of knowledge and depth of thought in major areas of learning. The breadth of knowledge is achieved by having students take courses from a number of teachers in many departments and disciplines. The depth of thought, which presup-

poses background, is achieved by taking courses of sufficient duration to allow for in-depth study or by taking courses that presuppose adequate background for intensive study. Courses in the general studies area are taught, as far as possible, so as to show relationships to other fields of knowledge.

The format for the general studies courses insures that the students will develop some practical skills, a general knowledge of major areas of learning, in-depth study in selected areas and an overview of the unity of knowledge to help them in their professions as well as to enrich their lives.

Following is an outline of the general studies requirements for the various degrees. A full description and listing of general education courses follow the outline.

|                                                   |                                                  |
|---------------------------------------------------|--------------------------------------------------|
| Bachelor of Arts Degree                           | 86 quarter hours<br>(including foreign language) |
| Bachelor of Music Degree                          | *                                                |
| Bachelor of Science Degree                        | 74 quarter hours                                 |
| Bachelor of Science in<br>Business Administration | 74 quarter hours                                 |
| Bachelor of Science in<br>Engineering Degree      | *                                                |
| Bachelor of Social Work                           | 74 quarter hours                                 |
| Associate of Science Degree                       | 32 quarter hours                                 |
| Certificate Program                               | 10 quarter hours                                 |

\*These degrees have modified general studies requirements. Please refer to the respective Departments of Instruction in this bulletin.

For the General Studies Honors Program, see General Studies Honors section of this Bulletin.

## GENERAL AREAS

The range of hours for each area indicates the minimum number of hours that must be chosen from that area and the maximum number of hours from that area that may count toward the total requirement. Some areas are subdivided, with ranges from each subdivision indicating the minimum that must be taken from that subdivision and the maximum that may count toward that area requirement. Credits earned beyond the listed maximums may be counted as general electives.

| Areas                                                                                                                                    | Hours<br>Minimum/Maximum<br>in specific subject areas | Hours<br>Minimum/Maximum<br>in general areas |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------|
| APPLIED ARTS . . . . .                                                                                                                   |                                                       | 0-4                                          |
| Courses in the applied arts should introduce the student to basic manual and technical skills.                                           |                                                       |                                              |
| HEALTH AND PHYSICAL EDUCATION . . . . .                                                                                                  |                                                       | 2-6                                          |
| Courses should introduce the student to health principles and, by stressing both theory and activity, emphasize the pursuit of healthful |                                                       |                                              |

living. (No more than 4 quarter hours from any one area will count toward the requirement.)

|                                                 |     |  |
|-------------------------------------------------|-----|--|
| Activity Courses . . . . .                      | 2-4 |  |
| Theory Courses in Health,<br>Health-related, or |     |  |
| Nutrition . . . . .                             | 0-4 |  |

#### **HISTORY AND SOCIAL STUDIES . . . . . 12-20**

Courses in history and social studies should help the student understand the forces that have shaped the individual in his culture and society. History courses should interpret the sweep of cultures, instilling an appreciation for the development of civilization and an awareness of the unique place of the Christian church in time. Social Studies courses should introduce the student to the methodology and contributions of the particular discipline.

|                          |      |
|--------------------------|------|
| History . . . . .        | 8    |
| Social Studies . . . . . | 4-12 |

*If more than one course is selected from the areas listed below, courses chosen must be from two or more areas:*

|                       |                             |
|-----------------------|-----------------------------|
| Business/Economics    | Geography/Political Science |
| Education             | Psychology                  |
| Environmental Studies | Sociology                   |

#### **HUMANITIES . . . . . 12-16**

Courses in the fine arts, literature, and philosophy should introduce the student to mankind's aesthetic and intellectual aspirations and achievements. Fine arts and literature courses should concentrate upon ideas and styles in their cultural context rather than upon the development of skills. Philosophy courses should in their manner and subject matter clearly make for an understanding of and appreciation for philosophy as a distinct mode of inquiry. (No more than 8 quarter hours from any one area will count toward the requirement.)

|                      |     |
|----------------------|-----|
| Fine Arts . . . . .  | 0-8 |
| Literature . . . . . | 0-8 |
| Philosophy . . . . . | 0-8 |

#### **LANGUAGE ARTS . . . . . 12-20**

Courses should introduce the student to the concepts and skills of the language arts by emphasizing the practice of effective written and oral communication. Courses in foreign language should emphasize the acquisition of such communicative skills as speaking, reading, and writing a foreign language while introducing students to a foreign culture and its thought. ENGL 121, 122, 123 or equivalent is required. Completion of an elementary course in a foreign language (12 credits of the same language) is required of all Bachelor of Arts degree students. This requirement may also be met by the satisfactory completion of two years of the same foreign language in secondary school.

*The first course in the communications area must be selected from oral communication courses.*

|                            |      |
|----------------------------|------|
| College Writing . . . . .  | 8    |
| Communications . . . . .   | 0-8  |
| Foreign Language . . . . . | 0-12 |

**MATHEMATICS AND NATURAL SCIENCE . . . . . 12-16**

Courses in mathematics should introduce the student to mathematical thought and practice and to the relationship of mathematics to other disciplines. Courses in science should introduce the student to methods of measurement and discovery and should help the student to understand through theory and practice how hypotheses are developed, tested and applied. (A minimum of 8 quarter hours must be taken from one course sequence in a laboratory science area.)

|                       |      |
|-----------------------|------|
| Mathematics . . . . . | 4-8  |
| Science . . . . .     | 8-12 |

**RELIGION AND THEOLOGY . . . . . 16-20**

Courses in religion and theology should emphasize an understanding and application of Biblical knowledge, foster continued spiritual growth, and help the student develop a personal religious philosophy and prepare for active witnessing.

|                                                |      |
|------------------------------------------------|------|
| Biblical Studies . . . . .                     | 6-20 |
| Electives in Religion<br>or Theology . . . . . | 0-14 |

*A minimum of 6 quarter hours must be upper division.*

**Religion requirement for transfer students from non-SDA colleges:**

Transfer students will take the equivalent of three hours per quarter in residence, but with the understanding that a student who spends six or more quarters in residence is required to take only the minimum requirement of 16 hours. Students in residence for three or four quarters must include three hours of Biblical studies (three hours of the total religion requirement must be upper division). Students in residence five quarters or more must include six hours in Biblical studies (six hours of the total religion requirement must be upper division).

Students from non-SDA regional accredited colleges may transfer up to six hours of credit toward the general studies religion requirement, subject to the approval of the School of Theology and the Academic Standards Committee. In such cases, however, students will still be required to take a minimum of nine hours of religion from Walla Walla College and meet the Biblical Studies and upper division requirements described above.

## SPECIFIC COURSES FOR GENERAL STUDIES

The following list of specific courses will satisfy the General Studies Requirements:  
(Courses listed in more than one area of general studies may be applied in only one area for an individual student.)

### APPLIED ARTS . . . . . 0-4

All 100-level courses with the following prefixes: ABOD, AUTO, AVIA, CPTR, DRFT, ENGR, FINA, GRPH, and PHTO.

All 100- and 200-level courses with the following prefixes: ACCT, ART (except 161-163; 244-251); ELCT, TECH and OFAD (except 161; 255-264).

In addition COMM 231 and LIBR 111.

### HEALTH and PHYSICAL EDUCATION . . . . . 2-6

#### Activity Courses: 2-4

ALL PEAC 107-195 Activity Courses

#### Theory Courses in Health, Health-related, or Nutrition: 0-4

|          |                      |   |
|----------|----------------------|---|
| HLSC 220 | Human Nutrition      | 4 |
| HLSC 110 | Wellness for Living  | 3 |
| HLSC 208 | Drugs and Society    | 3 |
| HLSC 353 | Principles of Health | 3 |

### HISTORY and SOCIAL STUDIES . . . . . 12-20

#### History: 8

|                    |                                 |         |
|--------------------|---------------------------------|---------|
| HIST 120, 121, 122 | History of Western Civilization | 4, 4, 4 |
| HIST 221, 222      | History of the United States    | 4, 4    |
| HIST 242           | Modern East Asian History       | 4       |
| HIST 274, 275      | History of England              | 4, 4    |
| HIST 284, 285      | History of Latin America        | 4, 4    |
| HIST 321           | Contemporary Issues             | 2; 4    |

#### Social Studies: 4-12

|               |                                                |      |
|---------------|------------------------------------------------|------|
| ANTH 225      | Cultural Anthropology                          | 3    |
| COMM 145      | Mass Communication Media                       | 4    |
| ECON 211      | Principles of Macroeconomics                   | 4    |
| ECON 212      | Principles of Microeconomics                   | 4    |
| EDUC 110      | Principles and Concepts of Christian Education | 2    |
| EDUC 210      | Foundations of Education                       | 3    |
| **ENVI 385    | The Environment and Man                        | 4    |
| GBUS 361, 362 | Business Law I, II                             | 4, 4 |
| GEOG 258      | World Geography                                | 4    |
| PLSC 224      | American Government                            | 4    |
| PLSC 321      | Contemporary Issues                            | 2; 4 |
| PSYC 130      | General Psychology                             | 4    |
| PSYC 230      | Systems and Theories in Psychology             | 4    |
| PSYC 444      | Social Psychology                              | 3    |

|          |                                        |   |
|----------|----------------------------------------|---|
| SOCI 204 | General Sociology                      | 4 |
| SOCI 225 | Marriage and Family Life               | 2 |
| SOWK 266 | Social Welfare as a Social Institution | 3 |
| SPCH 401 | Introduction to General Semantics      | 2 |

\*\*Only two hours will apply toward the social studies requirement; the other two hours will apply to natural science.

Maximum of a total of 4 credits for HIST 321/PLSC 321 will apply to General Studies.

## HUMANITIES . . . . . 12-16

### Fine Arts: 0-8

|                    |                          |         |
|--------------------|--------------------------|---------|
| ART 251            | Introduction to Art      | 4       |
| ART 324, 325       | History of Art           | 3, 3    |
| MUHL 124           | Introduction to Music    | 4       |
| MUHL 134           | The Art of Listening     | 3       |
| MUHL 321, 322, 323 | History of Music         | 4, 4, 4 |
| SPCH 363           | History of Dramatic Arts | 4       |

### Literature: 0-8

|                    |                                           |         |
|--------------------|-------------------------------------------|---------|
| ENGL 204           | Introduction to Literature                | 4       |
| ENGL 207           | World Literature                          | 4       |
| ENGL 209           | Religious Literature                      | 4       |
| ENGL 210, 211, 212 | Survey of English and American Literature | 4, 4, 4 |
| ENGL 214           | Themes in Literature                      | 4       |
| ENGL 215           | Film Literature                           | 4       |
| ENGL 454           | Literature of the Bible                   | 4       |
| FREN 301, 302, 303 | Survey of French Literature               | 3, 3, 3 |
| GRMN 311, 312, 313 | Survey of German Literature               | 3, 3, 3 |
| SPAN 324, 325, 326 | Survey of Spanish Literature              | 3, 3, 3 |

### Philosophy: 0-8

|          |                                 |   |
|----------|---------------------------------|---|
| PHIL 204 | Essentials of Critical Thinking | 4 |
| PHIL 205 | Introduction to Philosophy      | 4 |
| PHIL 206 | Introduction to Logic           | 4 |
| PHIL 305 | Moral Philosophy                | 4 |
| PHIL 306 | History of Philosophy           | 4 |
| PHIL 407 | Philosophy of Science           | 4 |
| PHIL 412 | Philosophy of Religion          | 4 |
| PHIL 440 | Problems in Philosophy          | 4 |

## LANGUAGE ARTS . . . . . 12-20

### English: 8

|                    |                 |         |
|--------------------|-----------------|---------|
| ENGL 121, 122, 123 | College Writing | 3, 3, 2 |
|--------------------|-----------------|---------|

### Communications: 0-8\*

|          |                                      |   |
|----------|--------------------------------------|---|
| ENGL 324 | Essay Writing                        | 3 |
| ENGL 325 | Advanced Technical Writing           | 3 |
| JOUR 245 | Journalistic Writing                 | 4 |
| JOUR 341 | Magazine Article Writing             | 4 |
| SPCH 101 | Fundamentals of Speech Communication | 4 |

|          |                           |   |
|----------|---------------------------|---|
| SPCH 207 | Small Group Communication | 3 |
| SPCH 443 | Persuasive Speaking       | 4 |

\*The first course in the communications area must be selected from oral communication courses.

**Foreign Language: 0-12\*\***

|                    |                                    |         |
|--------------------|------------------------------------|---------|
| FREN 101           | Introduction to French             | 4       |
| FREN 102, 103      | Elementary French                  | 4, 4    |
| FREN 202, 203      | Intermediate French                | 4, 4    |
| GRMN 111           | Introduction to German             | 4       |
| GRMN 112, 113      | Elementary German                  | 4, 4    |
| GRMN 212, 213      | Intermediate German                | 4, 4    |
| JAPN 131           | Introduction to Japanese           | 4       |
| JAPN 132, 133      | Elementary Japanese                | 4, 4    |
| RLNG 121, 122, 123 | Greek I                            | 3, 3, 3 |
| RLNG 221, 222, 223 | Greek II                           | 3, 3, 3 |
| RLNG 331, 332, 333 | Introduction and Elementary Hebrew | 3, 3, 3 |
| SPAN 121           | Introduction to Spanish            | 4       |
| SPAN 122, 123      | Elementary Spanish                 | 4, 4    |
| SPAN 222, 223      | Intermediate Spanish               | 4, 4    |

\*\*Twelve hours required for the B.A. degree or two years of the same language in secondary school.

**MATHEMATICS and NATURAL SCIENCE . . . . . 12-16**

**Mathematics: 4-8**

|               |                                    |      |
|---------------|------------------------------------|------|
| MATH 105      | Mathematics with Applications      | 4    |
| MATH 106      | Applied Statistics                 | 4    |
| MATH 115      | Elementary Mathematics             | 4    |
| MATH 117      | Precalculus                        | 5    |
| MATH 121, 122 | Fundamentals of Mathematics I, II  | 4, 4 |
| MATH 123      | Survey of Calculus                 | 4    |
| MATH 181, 281 | Analytic Geometry/Calculus I, II   | 4, 4 |
| MATH 282, 283 | Analytic Geometry/Calculus III, IV | 4, 4 |

**Natural Science: 8-12\***

|                    |                                  |         |
|--------------------|----------------------------------|---------|
| ASTR 141, 142      | General Astronomy                | 4, 4    |
| BIOL 101, 102, 103 | General Biology                  | 4, 4, 4 |
| BIOL 105, 106      | Biology for General Studies      | 4, 4    |
| BIOL 201, 202      | Anatomy and Physiology           | 4, 4    |
| CHEM 101, 102      | Introductory Chemistry           | 4, 4    |
| CHEM 141, 142, 143 | General Chemistry                | 3, 3, 3 |
| CHEM 144, 145, 146 | General Chemistry Laboratory     | 1, 1, 1 |
| **ENVI 385         | The Environment and Man          | 4       |
| PHYS 201, 202      | Invitation to Physics            | 3, 3    |
| PHYS 204, 205      | Invitation to Physics Laboratory | 1, 1    |
| PHYS 211, 212, 213 | General Physics                  | 3, 3, 3 |
| PHYS 214, 215, 216 | General Physics Laboratory       | 1, 1, 1 |
| PHYS 251, 252, 253 | Principles of Physics            | 3, 3, 3 |
| PHYS 254, 255, 256 | Principles of Physics Laboratory | 1, 1, 1 |

\*Eight hours must be taken from one course sequence.

\*\*Only two hours will apply toward the natural science requirement; the other two hours will apply to social studies.

**RELIGION and THEOLOGY . . . . . \*16-20**

\*Six hours of this 16-20 must be upper division.

**Biblical Studies: 6-20**

|      |               |                                         |                  |
|------|---------------|-----------------------------------------|------------------|
| RELB | 104           | The Ministry of Jesus                   | 4                |
| RELB | 105           | Sermon on the Mount                     | 2                |
| RELB | 106           | Parables of Jesus                       | 2                |
| RELB | 111           | Messages of the Old Testament           | 4                |
| RELB | 216           | Messages of Paul                        | 4                |
| RELB | 301           | Old Testament History                   | 3                |
| RELB | 302           | Pentateuch                              | 3                |
| RELB | 303           | Writings                                | 3                |
| RELB | 304           | Interpreting the Prophets               | 4                |
| RELB | 305           | Hebrew Prophets and Contemporary Issues | 4                |
| RELB | 312           | Daniel                                  | 3                |
| RELB | 313           | Revelation                              | 3                |
| RELB | 333           | Biblical Perspectives on Healing        | 4                |
| RELB | 434, 435, 436 | Gospels                                 | 3(4), 3(4), 3(4) |
| RELB | 454           | Literature of the Bible                 | 4                |
| RELB | 464, 465, 466 | New Testament Epistles                  | 3, 3, 3          |

**Electives in Religion or Theology: 0-14**

|      |          |                                                  |      |
|------|----------|--------------------------------------------------|------|
| RELH | 205      | Biblical Archaeology                             | 3    |
| RELH | 402      | Modern Denominations                             | 3    |
| RELH | 403      | World Religions                                  | 3    |
| RELH | 406      | History of the English Bible                     | 2    |
| RELH | 457      | History of Adventism                             | 2    |
| RELM | 233      | Introduction to Cross-Cultural Ministry          | 3    |
| RELT | 201      | The Christian Way of Salvation                   | 4    |
| RELT | 202      | Fundamentals of Christian Beliefs                | 4    |
| RELT | 204      | Contemporary Issues in Adventist Thought         | 4    |
| RELT | 246      | Christian Ethics                                 | 4    |
| RELT | 312      | Bioethics                                        | 4    |
| RELT | 314      | Christian Hope                                   | 3    |
| RELT | 317      | Inspiration and Revelation                       | 4    |
| RELT | 330      | Christian Discipleship                           | 3    |
| RELT | 340      | Theology of Spiritual Care                       | 4    |
| RELT | 404      | A Scientific Approach to Biblical Interpretation | 2    |
| RELT | 412      | Philosophy of Religion                           | 4    |
| RELT | 417, 418 | Christian Dynamics                               | 3, 3 |
| SOCI | 449      | Sociology of Religion                            | 2    |

**GENERAL STUDIES HONORS PROGRAM**

The General Studies Honors Program offers a group of interdisciplinary courses stressing independent research, writing, and discussion. All honors courses, except HONR 496, 497, 498, will satisfy general studies requirements for the baccalaureate degree.

The program is a separate track of general studies and not a major or a minor in itself. Honors courses have a flavor distinctly different from the regular general studies courses because they use primary source material more extensively than textbooks to enhance the development of independent thinking, they follow an interdisciplinary approach to stress the unity of knowledge, and the classes are more personalized and typically are small.

Students finishing the program with a 3.25 cumulative honors G.P.A. receive a six hour tuition grant and, at graduation, are designated as "General Studies Honors Graduates."

**Admission Requirements.** The Admissions Committee considers high school grade-point average (generally 3.30 or higher), ACT test scores or equivalent, an essay submitted by the student as part of his application, and on occasion, personal interviews with applicants and recommendations from teachers. Students already enrolled in college may also apply to the program. The Honors Committee will review all applications and supporting data and notify those students who are accepted.

**Program Requirements.** The following requirements must be met to complete the honors program: a cumulative grade-point average of 3.25 or better in honors courses, and completion of at least 30 quarter hours of honors courses (listed below) including HONR 496, 497, and 498.

The honors courses fulfill the general studies history requirement, the humanities requirement, the natural science requirement, 8 hours of the language arts requirement, and 10 hours of the religion requirement (or 6 if Religion in a Social Context is taken for sociology credit, in which case the 4-hour social studies requirement is fulfilled).

## HONORS COURSES

### HISTORY AND SOCIAL SCIENCE

**HONR 131, 132, 133 WESTERN THOUGHT I** 4, 4, 4  
Integration of Western Civilization and World Literature with added emphasis on philosophical concepts and their relationships to events. Corollary reading will emphasize the history and philosophy of science, (satisfies 8 hours of general studies history requirement and 4 hours of general studies humanities requirement.) Students not taking Western Thought II must take a humanities course in philosophy or fine arts.

**HONR 349 RELIGION IN A SOCIAL CONTEXT** 4  
Study of religion in its social setting, including the nature and role of religious symbol systems, the importance of religion in the creation of social values, the function of religion in social change, and the institutionalization of religion. Same as RELH 349.

### HUMANITIES

**HONR 311, 312, 313 WESTERN THOUGHT II** 4, 4, 4  
Study of the relationship between major philosophical, religious, and aesthetic ideas and their influence on western culture from Greek antiquity to the present; includes study of architecture, the visual arts, music and literature, (satisfies 12 hours of general studies humanities requirement.) Must be taken in sequence. Prerequisites: HONR 131, 132, 133. Will not apply toward an English major.

## LANGUAGE ARTS

**HONR 141, 142, 143 COLLEGE WRITING** 3, 3, 2  
Advanced college writing designed to integrate writing with readings of significant classic and contemporary texts which complement the general studies honors curriculum. In the third quarter students write a documented paper on a major issue in classic or contemporary thought using primary source material.

## RELIGION

**HONR 281, 282, 283 THE NEW TESTAMENT AND ITS ENVIRONMENT** 2, 2, 2

Study of certain New Testament themes in the light of first-century Jewish and Hellenistic culture and thought. This course is designed for honors students and is open to other students only by special permission of the instructor. HONR 281 is a pre-requisite for either HONR 282 or 283.

**HONR 349 RELIGION IN A SOCIAL CONTEXT** 4

Study of religion in its social setting, including the nature and role of religious symbol systems, the importance of religion in the creation of social values, the function of religion in social change, and the institutionalization of religion. Same as SOCI 349.

## SEMINAR

**HONR 496, 497, 498 HONORS SEMINAR** 1, 1, 1

Research course designed to stimulate interdisciplinary independent study. Students share the results of reading and research through formal presentation of papers. Must be taken in sequence.

## ASSOCIATE DEGREE REQUIREMENTS

The two-year associate degree programs are intended to provide accredited technological and occupational preparation for students desiring to graduate with marketable skills while experiencing the full benefits of a residential Christian college.

### GRADUATION REQUIREMENTS FOR THE ASSOCIATE DEGREE

All candidates for the associate degree must complete the following residence and general requirements:

#### Residence Requirements:

A minimum of 24 quarter hours. The last two quarters must be completed in residence, with a minimum of 9 quarter hours earned in the concentration.

#### General Requirements:

1. A minimum of 96 quarter hours must be completed.
2. A cumulative grade-point average of 2.00 (C) must be maintained. A grade lower than C- will not apply toward the concentration.
3. The associate degree concentration as outlined under the respective departments of instruction of this bulletin must be completed.

4. The general studies requirements as outlined below must be completed. For a listing of the specific courses which may apply to the requirements, see page 48.
5. A course may fulfill requirements for one or more concentrations but credit will apply to only one concentration.
6. Students must have all transcripts for correspondence and transfer credit on file in the Academic Records Office by May 15 in order to graduate with the June class. Summer seniors must have all transcripts for correspondence work by July 15 in order to graduate with the August class. A maximum of 12 quarter hours of correspondence credit will be accepted. **All correspondence work must be completed prior to the beginning of the last quarter in residence.**
7. Degree candidates must file a formal application (Senior Outline) for a degree showing the proposed schedule of courses for the senior year with the Registrar not later than one week after the beginning of the first quarter of the senior year. Appropriate forms may be obtained from the Academic Records Office. Students are not considered candidates for degrees and are not eligible for senior class membership until officially notified by the Registrar.

**General Studies Requirements for the Associate Degree:**

| Areas                                            | Hours<br>Minimum/Maximum<br>in specific subject areas | Hours<br>Minimum/Maximum<br>in general areas |
|--------------------------------------------------|-------------------------------------------------------|----------------------------------------------|
| <b>Applied Arts</b> . . . . .                    |                                                       | 0-2                                          |
| <b>Health and Physical Education</b> . . . . .   |                                                       | 0-2                                          |
| Activity Courses                                 |                                                       |                                              |
| <b>History and Social Studies</b> . . . . .      |                                                       | 0-8                                          |
| History . . . . .                                | 0-8                                                   |                                              |
| Social Studies . . . . .                         | 0-8                                                   |                                              |
| <b>Humanities</b> . . . . .                      |                                                       | 0-8                                          |
| Fine Arts . . . . .                              | 0-4                                                   |                                              |
| Literature . . . . .                             | 0-4                                                   |                                              |
| Philosophy . . . . .                             | 0-4                                                   |                                              |
| <b>Language Arts</b> . . . . .                   |                                                       | 8-12                                         |
| ENGL 101, 102 or 121, 122, 123 . . . . .         | 8                                                     |                                              |
| Communications . . . . .                         | 0-4                                                   |                                              |
| Foreign Language . . . . .                       | 0-4                                                   |                                              |
| <b>Mathematics and Natural Science</b> . . . . . |                                                       | 0-8                                          |
| Mathematics . . . . .                            | 0-8                                                   |                                              |
| Science . . . . .                                | 0-8                                                   |                                              |
| <b>Religion and Theology</b> . . . . .           |                                                       | 6-8                                          |
| Biblical Studies . . . . .                       | 4-8                                                   |                                              |
| Electives in Religion or Theology . . . . .      | 0-4                                                   |                                              |

Select a minimum of 32 quarter hours for the Associate degree.

## CERTIFICATE PROGRAMS

The Certificate programs typically are one-year curricula providing occupational preparation for students desiring immediately marketable skills. For complete descriptions of the Certificate programs, consult the respective departments of instruction in this bulletin.

### General Studies Requirements for the Certificate Program:

Language Arts . . . . . 4  
ENGL 101 (Recommended), ENGL 121, SPCH 101

Mathematics, Natural Science, and/or Business . . . . . 0-4

Religion and Theology . . . . . 4-6

Select a minimum of 10 quarter hours for the Certificate program.

## PREPROFESSIONAL PROGRAMS

Programs are offered in a wide variety of fields to prepare students for admission to professional schools or to enter upon technical careers. Students wishing to secure admission to such schools should familiarize themselves with the admission requirements of the school of their choice. Most preprofessional curriculums require two units of high school mathematics (algebra and geometry). The following preprofessional curricula are detailed in the Preprofessional Programs section of this bulletin:

|                           |                             |
|---------------------------|-----------------------------|
| Architecture (2)*         | Osteopathy (3)              |
| Chiropractic Medicine (2) | Pharmacy (2)                |
| Dentistry (3)             | Physical Therapy (2)        |
| Dental Hygiene (2)        | Public Health (4)           |
| Dietetics (2)             | Radiological Technology (1) |
| Law (4)                   | Respiratory Therapy (1)     |
| Medicine (4)              | Speech-Language Pathology   |
| Occupational Therapy (2)  | and Audiology (2)           |
| Optometry (2)             | Veterinary Science (2)      |

\*Numbers in parenthesis indicate the years of study normally required on the Walla Walla College campus before acceptance into a professional school.

## TRANSITIONAL CURRICULUM

The transitional curriculum is designed for freshman students who have been accepted by the College with an inadequate background for attempting a full academic program. It consists of ENGL 100, GNRL 100, MATH 100, and RDNG 100, in addition to courses within the regular college curriculum as approved by the Director of Academic Advisement. Students are registered for courses within this curriculum on the basis of test scores from their entrance examinations and/or secondary school grades. Credit received from the courses in this curriculum do not apply to the 192 quarter hours for graduation. However, they do count towards the minimum study load for a term (see Study Load section of this Bulletin).

The Director of Academic Advisement closely advises and schedules regular academic counseling sessions for all students in this program. This counseling procedure continues throughout the freshman year, although most transitional students are able to carry a full college load by the beginning of the winter quarter.

## COURSE NUMBERING

The course numbering sequence is designed to reflect in varying degrees a progression in course content, level of approach, and breadth of coverage. The course description further delineates specific course content progression. This information provided by the course number, prefix, and description should serve as a general guide to students in selecting courses compatible with their background and ability.

In general, the following guidelines have been used in course numbering:

The first numeral indicates academic level of the course:

- 100 Remedial and Experiential courses (credits do not apply toward graduation)
- 101-199 Courses normally taken during the freshman year
- 200-299 Courses normally taken during the sophomore year
- 300-399 Courses normally taken during the junior year
- 400-499 Courses normally taken during the senior year

The third numeral will indicate course sequencing. Courses in which the third numerals are 1, 2, and 3, must be taken in sequence.

The credit indicated in connection with a course is the "quarter hour," and one quarter hour represents one recitation period per week for one quarter or three clock hours of laboratory work.

The College will make every effort consistently to offer all courses at appropriate intervals. It does reserve the right, however, to alter the sequences or drop courses if unforeseen circumstances in class enrollments or teacher staffing so dictate. The *Class Schedule* should be consulted for personal planning of course loads and schedules.

The College reserves the right to withdraw temporarily any course which does not have an adequate enrollment. A course may not be offered for fewer than six students except for seniors or graduate students.

## UNIFORM COURSE NUMBERS

By general agreement certain course numbers are reserved for classes that are of such a general nature as to be found in many departments. The prefix assigned to the number designates the discipline. The following are courses that carry uniform numbers throughout this bulletin:

### 100 REMEDIAL COURSES 2-4

Courses providing individualized help for students needing to improve basic skills in preparation for college level work. Credit will not apply toward graduation.

### 100 EXPERIENTIAL PROGRAM 6; 18

Programs with qualified supervision and structured experience including Student Missionary, Task Force and Cooperative Education. Credit will not apply toward graduation. Graded S or NC basis.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 200; 400 TOPICS                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1-4; 6 |
| Courses in specialized or experimental areas on either the lower division or advanced level. These courses are conducted through regular class activities and are approved by the Curriculum Committee as a one-time offering. See the Class Schedule for all approved Topics courses. One to four hours per quarter (except marine-oriented courses taken at the Marine Station).                                                                                          |        |
| 259; 459 SUPPLEMENTAL STUDIES                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1-2; 2 |
| Previous course work supplemented when portions of a required course in the major or minor have been omitted. Ordinarily supplementation will occur only with transfer students or within a program that has undergone a major curriculum change. A study proposal is to be outlined in consultation with the instructor of the course being supplemented and approved by the department and the Academic Standards Committee. May not be substituted for existing courses. |        |
| 274; 474 WORKSHOPS                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1-4; 6 |
| 280; 370; 490 DIRECTED FIELD WORK/PRACTICUM/<br>EXPERIENCE                                                                                                                                                                                                                                                                                                                                                                                                                  | 2-16   |
| 392 GENERAL SECONDARY METHODS COURSE (see Education)                                                                                                                                                                                                                                                                                                                                                                                                                        | 2      |
| 395; 396 DEPARTMENTAL METHODS COURSES                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3      |
| 469 ADVANCED STUDY                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1-3; 3 |
| Advanced directed study by which students may enhance the major or minor in breadth or depth in topics not covered by the department curriculum. The study proposal must be approved by the department faculty and the Academic Standards Committee and should indicate the methods of evaluation. May not be substituted for existing courses in the major or minor.                                                                                                       |        |
| 479 DIRECTED RESEARCH/PROJECT                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1-3; 6 |
| Individual research, and/or laboratory work, or technical project in the major. (Some departments may allow this course on the minor.) A project proposal is required to define the scope of the work and the method of reporting. Requires permission of the department faculty with a copy of the proposal sent to the Office of Academic Administration. See individual departments for specific course description.                                                     |        |
| 494 COOPERATIVE EDUCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0-12   |
| Practical experience in the major in an off-campus setting. Requires permission of major adviser. See individual departments for specific course description.                                                                                                                                                                                                                                                                                                               |        |
| 495 COLLOQUIUM                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0      |
| 496; 497; 498 SEMINAR                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1-4; 4 |

## ART

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Tom Emmerson, Chair; Kenneth MacKintosh.

The aim of the department is to cultivate an awareness, appreciation, and understanding of the various forms of visual experience. Through instruction and practice, the students may develop their creative abilities for practical use by following the concentration in fine art or commercial art. Commercial art is designed to develop skills in working with the printed word and visual communication; fine art will prepare the student as a professional artist or art teacher or will provide preprofessional training in allied fields. See Architecture program listed in the preprofessional section of this bulletin.

### MAJOR IN ART (Bachelor of Arts)

A student majoring in art must complete the core requirements, one concentration and the required cognates for that concentration, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. As a senior comprehensive, all art majors are required to hold a senior show in the Clyde and Mary Harris Art Gallery; the show is to be completed with the approval and coordination of the art faculty. All senior art majors are also to prepare a slide portfolio of their art work as part of the senior comprehensive. The slides should consist of 20 color transparencies in the 35mm format.

#### Core Requirements:

|                   |                             |       |
|-------------------|-----------------------------|-------|
| ART 161, 162, 163 | Design                      | 9     |
| ART 184, 185, 186 | Introduction to Drawing     | 6     |
| ART 194, 195, 196 | Introduction to Painting    |       |
| ART 264, 265, 266 | Introduction to Sculpture   |       |
| ART 284, 285, 286 | Introduction to Pottery     |       |
| ART 294, 295, 296 | Introduction to Printmaking |       |
| ART 324, 325      | History of Art              | 6     |
|                   |                             | <hr/> |
|                   |                             | 35    |

#### CONCENTRATION: Commercial Art

|                   |                    |       |
|-------------------|--------------------|-------|
| ART 244, 245, 246 | Commercial Art     | 6     |
| ART 314, 315, 316 | Advertising Design | 9     |
| ART 317, 318      | Printmaking        | 4     |
| ART 201           | Calligraphy        |       |
| ART 307, 308      | Drawing            |       |
| ART 319           | Printmaking        |       |
|                   |                    | *6    |
|                   |                    | <hr/> |
|                   |                    | 25    |

\*2 hours must be upper division.

#### Cognates: Commercial Art

|                    |                                 |   |
|--------------------|---------------------------------|---|
| HIST 120, 121, 122 | History of Western Civilization | 8 |
| GRPH 271           | Computer Assisted Publishing    | 2 |
| PHTO 154           | Principles of Photography       | 2 |
| PHTO 355           | Advanced Photography            | 3 |

**CONCENTRATION: Fine Art**  
 ART 304, 305, 306      Fine Arts Design

9

Electives chosen from courses listed below (limited to 5 areas):

|                   |                               |   |     |
|-------------------|-------------------------------|---|-----|
| ART 201           | Calligraphy                   | } | *16 |
| ART 264, 265, 266 | Introduction to Sculpture     |   |     |
| ART 284, 285, 286 | Introduction to Pottery       |   |     |
| ART 307, 308, 309 | Drawing                       |   |     |
| ART 317, 318, 319 | Printmaking                   |   |     |
| ART 334, 335, 336 | Painting                      |   |     |
| ART 364, 365, 366 | Sculpture                     |   |     |
| ART 374, 375, 376 | Pottery and Ceramic Sculpture |   |     |

\*6 hours must be upper division.

25

**Cognates: Fine Art**

|                            |                                      |   |
|----------------------------|--------------------------------------|---|
| ENGL 455                   | Classical Backgrounds                | 4 |
| HIST 120, 121, 122         | History of Western Civilization      | 8 |
| RELB 205                   | Biblical Archaeology                 | 3 |
| RELT 246<br>or<br>PHIL 305 | Christian Ethics<br>Moral Philosophy | 4 |

**MINOR IN ART**

A student minoring in art must complete 33 quarter hours:

|                   |                         |           |
|-------------------|-------------------------|-----------|
| ART 161, 162, 163 | Design                  | 9         |
| ART 184, 185, 186 | Introduction to Drawing | 6         |
| ART 324, 325      | History of Art          | 6         |
|                   | Electives               | <u>12</u> |

Approval of art adviser required.

33

**ART**

**ART 161, 162, 163 DESIGN**      3, 3, 3  
 Intensified study of the basic elements of design aimed to develop cognizance of visual organization.

**ART 184, 185, 186 INTRODUCTION TO DRAWING**      2, 2, 2  
 Experience in the use of line in representational and nonfigurative approaches, with application to still life and portraiture.

**ART 194, 195, 196 INTRODUCTION TO PAINTING**      2, 2, 2  
 Introduction to painting with the media chosen by the instructor from among water, acrylic and oil-based pigments. Includes instruction in design and drawing. Offered odd years only.

**ART 201 CALLIGRAPHY**      2  
 Introduction to italic handwriting with emphasis on the creative aspects of page layout and design and on developing a beautiful style. Includes individual study of selected hands chosen from foundational, uncial, chancery cursive or gothic hands.

**ART 244, 245, 246 COMMERCIAL ART**      2, 2, 2  
 Introduction to the various processes and media of commercial art, with emphasis on layout, design, new directions and craftsmanship. First quarter covers the basic principles of proportion and design applied to letters of the alphabet. Offered even years only.

## ART

### ART 251 INTRODUCTION TO ART

Introduction to art for liberal arts students who wish to better understand and appreciate the visual arts of painting, sculpture, architecture, printmaking and the minor arts. 4

### ART 264, 265, 266 INTRODUCTION TO SCULPTURE

The study and application of three-dimensional forms in space using varied media such as clay, plaster, plasticene and paper. 2, 2, 2

### ART 284, 285, 286 INTRODUCTION TO POTTERY

Introduction to pottery and ceramic sculpture using wheel-thrown and hand-built forms. Stresses design as it relates to form, function and glaze decoration. Includes an introduction to the different methods of kiln firing. 2, 2, 2

### ART 294, 295, 296 INTRODUCTION TO PRINTMAKING

Introduction to the art of printmaking, emphasizing the relief method linoleum cut, woodcut, and wood engraving. Includes an introduction to the intaglio method. Offered even years only. 2, 2, 2

### ART 301 ART IN THE ELEMENTARY SCHOOL

Principles of design and exploration of materials appropriate for primary and intermediate grade children. Methods of the intelligent use of art materials for the child of elementary-school age. Mandatory S grade. 3

### ART 304, 305, 306 FINE ARTS DESIGN

Application of the basic principles and elements of design to be used in the fine arts field. Prerequisites: ART 161, 162, 163. Offered even years only. 3, 3, 3

### ART 307, 308, 309 DRAWING

Advanced study using the basic principles of drawing in various experimental approaches and advanced techniques. Prerequisites: ART 184, 185, 186. 2, 2, 2

### ART 314, 315, 316 ADVERTISING DESIGN

Application of the basic principles and elements of design to be used in the commercial field of art. Prerequisites: ART 161, 162, 163; ART 244, 245, 246. Offered odd years only. 3, 3, 3

### ART 317, 318, 319 PRINTMAKING

Advanced study of the various processes of intaglio printmaking, drypoint, engraving, etching and lithography. Open to majors and minors only. Prerequisites: ART 161, 162, 163; ART 184, 185, 186; ART 294, 295, 296. Offered even years only. 2, 2, 2

### ART 324, 325 HISTORY OF ART

Chronological study of the great periods in the history of art, their causes and developments; includes discussion of the relation between art and society and the implications of aesthetic understanding in each period. Prerequisites: HIST 121, 122. Offered odd years only. 3, 3

### ART 334, 335, 336 PAINTING

Advanced study of aesthetic enjoyment and understanding. Designed to develop the application of paint, including oil, casein or tempura. Prerequisites: ART 184, 185, 186; ART 194, 195, 196. Offered odd years only. 2, 2, 2

### ART 364, 365, 366 SCULPTURE

Advanced study of basic three-dimensional design principles, using metal, Fiberglas, wood, and stone, emphasizing experimentation in direction, media and techniques. Prerequisites: ART 264, 265, 266. 2, 2, 2

### ART 374, 375, 376 POTTERY AND CERAMIC SCULPTURE

Advanced study of the relationship of form, design and decoration to tableware and hand-built, sculptural forms. Includes the understanding and making of clay, glaze formulation, construction methods, and kiln firing procedures. Prerequisites: ART 284, 285, 286. 2, 2, 2

### ART 494 COOPERATIVE EDUCATION

Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in off-campus setting. Allows the student to apply advanced classroom learning. Prerequisites: Approval by department; CDEV 210 or permission of Cooperative Education Director. 0

## **BIOLOGICAL SCIENCES**

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Sue Dixon, Chair; Larry McCloskey, Jim Nestler, Scott Ligman, Don Rigby.

The objectives of the department are to develop an understanding of the principles of biology which will better acquaint students with the world in which they live; to create an atmosphere conducive to individual investigation; to prepare department majors for graduate and professional education, teaching, and certain careers in the biological sciences.

The department offers a Bachelor of Science degree with a major in biology, and jointly with the department of physics, a Bachelor of Science degree with a major in biophysics. A minor is offered in biology. Graduate work leading to the Master of Science degree is also offered. For further information, see the *Graduate Bulletin*.

Exceptional opportunities for study in the biological sciences are possible during the summer at the Marine Station at Rosario Beach adjoining Deception Pass State Park, Anacortes, Washington. For further information, see the bulletin of the Marine Station.

### **MAJOR IN BIOLOGY (Bachelor of Science)**

A student majoring in biology must complete 62 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Candidates for this degree who plan on graduate work in biology should counsel with the assigned academic adviser concerning the need of a foreign language. One summer term (10 credits) is required at the WWC Marine Station during which at least one upper-division, marine-oriented course must be taken. Senior students are required to take the Graduate Record Examination, general and subject (Biology) sections.

#### **Major Requirements:**

|      |               |                                      |       |
|------|---------------|--------------------------------------|-------|
| BIOL | 101, 102, 103 | General Biology                      | 12    |
| BIOL | 250           | Biostatistics                        | 4     |
| BIOL | 251           | Research Methods I                   | 1     |
| BIOL | 352, 353, 354 | Research Methods II, III, IV         | 3     |
| BIOL | 392           | Cell Biology                         | 4     |
| BIOL | 393           | Genetics                             | 4     |
| BIOL | 394           | Developmental Biology                | 4     |
| BIOL | 446           | General Ecology                      | 4     |
| BIOL | 455           | Research Methods V                   | 1     |
| BIOL | 483           | Philosophy of Origins and Speciation | 3     |
| BIOL | 495           | *Colloquium                          | 0     |
|      |               | Electives (must be upper division)   | 22    |
|      |               |                                      | <hr/> |
|      |               |                                      | 62    |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair and must include one course from the following: BIOL 426, 460, 463; and one course from the following: BIOL 374, 389, 403, 462, 475; and one course from the following: BIOL 401, 413, 449, 464, 465, 466.

\*Required each quarter of juniors and seniors while in residence.

## BIOLOGICAL SCIENCES

### Cognates:

|                    |                                    |   |
|--------------------|------------------------------------|---|
| CHEM 141, 142, 143 | General Chemistry                  | 9 |
| CHEM 144, 145, 146 | General Chemistry Laboratory       | 3 |
| CHEM 321, 322, 323 | Organic Chemistry                  | 9 |
| CHEM 324, 325, 326 | Microscale Organic Laboratory      | 3 |
| CPTR 105           | Personal Computing                 | 3 |
| MATH 121, 122      | Fundamentals of Mathematics I, II  | 8 |
| MATH 181           | Analytical Geometry and Calculus I | 4 |
| PHYS 211, 212, 213 | General Physics                    | 9 |
| PHYS 214, 215, 216 | General Physics Laboratory         | 3 |

### MAJOR IN BIOPHYSICS (Bachelor of Science)

See the Interdisciplinary section of this bulletin.

### MINOR IN BIOLOGY

A student minoring in biology must complete 27 quarter hours; 8 must be upper division.

|                                  |                                                |    |
|----------------------------------|------------------------------------------------|----|
| BIOL 101, 102, 103               | General Biology                                | 12 |
| or                               |                                                |    |
| BIOL 105, 106<br>and<br>BIOL 103 | Biology for General Studies<br>General Biology |    |

Approval of biology adviser required.

### BIOLOGY (BIOL)

#### BIOL 101, 102, 103 GENERAL BIOLOGY 4, 4, 4

Study of the basic principles of biology of animals, plants, and microorganism. Topics include the cell, physiology, genetics, development, taxonomy, and ecology. Must be taken in sequence. One laboratory per week. High school chemistry strongly recommended prerequisite.

#### BIOL 105, 106 BIOLOGY FOR GENERAL STUDIES 4, 4

The process of science as a way of knowing, through a study of selected biological phenomena in an historical context. The laboratory emphasizes the process of science. One laboratory per week. Must be taken in sequence. Will apply to a biology minor with the addition of BIOL 103.

#### BIOL 201, 202 ANATOMY AND PHYSIOLOGY 4, 4

Study of human (organ-system) anatomy and physiology with reference to cellular, genetic, and developmental relationships. First quarter studies include integumentary, skeletal, muscle, nervous, and endocrine systems. Second quarter focuses on circulatory, respiratory, digestive, urinary, and reproductive systems. Must be taken in sequence. One laboratory per week. Will not apply to biology major. Students taking both BIOL 101, 102, 103, and BIOL 201, 202 will receive only 16 credits toward graduation.

#### BIOL 222 MICROBIOLOGY 5

Study of the nature and control of bacteria and other disease-producing organisms; consideration of their relationship to human disease and the basic concepts of immunology. One laboratory per week. Prerequisites: CHEM 101, 102 or BIOL 101, 102 or permission of instructor.

#### BIOL 250 BIOSTATISTICS 4

Practice and theory of statistical methods in quantitative biology. Prerequisites: MATH 121, 122.

#### BIOL 251 RESEARCH METHODS I 1

Introduction to the principles of scientific research and the function of the scientific methods. Prerequisites: BIOL 101, 102, 103. Graded S or NC.

BIOL 101, 102, 103 is a prerequisite for all upper-division courses.

**BIOL 352 RESEARCH METHODS II**

1

Emphasizes literature research and retrieval, oral critiques of research papers, and selection of a research area/problem and adviser. Prerequisite: BIOL 251.

**BIOL 353 RESEARCH METHODS III**

1

Preparation for the senior thesis proposal. The student will work with departmental adviser on an independent basis, doing a literature search and sometimes appropriate preliminary experiments leading to the writing and completion of a senior thesis proposal. Prerequisite: BIOL 352 and permission of research adviser. Registration: Spring quarter, junior year, strongly recommended.

**BIOL 354 RESEARCH METHODS IV**

1

Collection and analysis of data for the senior thesis. Prerequisite: BIOL 353 and permission of research adviser.

**BIOL 360 SURVEY OF THE PLANT KINGDOM**

4

Study of life histories, internal anatomy, and physiology of the various members of the plant kingdom. One laboratory per week. Offered odd years only.

**BIOL 374 ANIMAL BEHAVIOR**

4 or 5

Introduction to animal behavior with emphasis on the historical perspective and classical experiments. Contributions from diverse disciplines such as neurophysiology, ecology, endocrinology, sociology, anatomy, and medicine are drawn together to illustrate the dependence of ethology and animal behavior on the other life sciences. One laboratory per week. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.) Offered even years only on College Place campus; every 3 - 4 years at Marine Station.

**BIOL 389 NATURAL HISTORY OF VERTEBRATES**

4 or 5

Study of vertebrates with emphasis on natural history, ecology, and taxonomy. One laboratory per week. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.) Offered even years only on College Place campus; every 3 - 4 years at Marine Station.

BIOL 392, 393, 394 should be taken in sequence.

**BIOL 392 CELL BIOLOGY**

4

Study of eukaryotic cells. Topics include structural and functional diversity of membranes, energy and information flow, and structure and function of chloroplasts, mitochondria, ribosomes, and cytoskeleton. Corequisite: Organic chemistry.

**BIOL 393 GENETICS**

4

Study of the principles of inheritance in plants and animals. Laboratory work consists of both descriptive and experimental analysis of heredity. One laboratory per week.

**BIOL 394 DEVELOPMENTAL BIOLOGY**

4

Principles of development of plants and animals. Emphasizes problems of growth, differentiation, and morphogenesis. Laboratory work consists of both descriptive and experimental analysis of development. One laboratory per week.

**BIOL 395 METHODS OF TEACHING BIOLOGY**

3

Principles of teaching biology in the secondary school. Observation, demonstration, and class presentation are required. Will not apply on a major or minor in biology. Offered odd years only.

**BIOL 401 PLANT PHYSIOLOGY**

4

A study of the principles of plant physiology. One laboratory per week. Prerequisite: BIOL 392. Physics and organic chemistry strongly recommended. Offered odd years only.

**BIOL 403 ORNITHOLOGY**

4 or 5

Systematic study of native birds of North America, with emphasis on identification, migration, geographical distribution, habits, and life histories. Two laboratories per week. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.) offered every 3 - 5 years at the Marine Station. Will not be offered 1991-92 (exclusive of summer).

## BIOLOGICAL SCIENCES

### BIOL 407 PHILOSOPHY OF SCIENCE (or PHIL 407)

4

Study of the scientific method as it relates to primary origins and present-day distributions of living things. Evidences from archeology and the physical and biological sciences are examined. Will not apply on biology major. Prerequisite: A completed general education science requirement.

### BIOL 413 PLANT TISSUE CULTURE

3

A study of various techniques to establish and to maintain plant tissue cultures. One laboratory per week. Prerequisites: 8 hours of college-level chemistry or biology; CHEM 101, 102; CHEM 141, 142, 143; BIOL 222, and permission of instructor. Will not be offered 1991-92 (exclusive of summer).

### BIOL 426 SYSTEMATIC BOTANY

4 or 5

Study of the principles of plant classification, together with a systematic survey of vascular plants, with emphasis on natural history and ecology. Two laboratories per week. One weekend field trip required. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.) Offered even years only on College Place campus; every 3 - 5 years at Marine Station. Will not be offered 1991-92 (exclusive of summer).

### BIOL 446 GENERAL ECOLOGY

4

Study of the relationship of plants and animals, both as individuals and assemblages, to their physical and biological environment. Laboratory work includes field studies designed to examine ecological principles. One laboratory per week. Biostatistics, genetics, and a minimum of one field natural history course recommended.

### BIOL 449 VERTEBRATE HISTOLOGY

4

Study of the microscopic anatomy of vertebrate cells, tissues, and organs, including reference to their functions. Two laboratories per week. Offered odd years only.

### BIOL 455 RESEARCH METHODS V

1

Methods of writing and orally presenting a scientific paper. Students present the results of their senior thesis in a seminar and submit a written manuscript of their senior thesis (see BIOL 251; BIOL 352; BIOL 353; BIOL 354).

### BIOL 464 ANIMAL PHYSIOLOGY

4

Study of animal physiology with emphasis on integration of vertebrate organ systems. One laboratory per week. Prerequisite: BIOL 392. Physics and organic chemistry strongly recommended prerequisites.

### BIOL 465 BACTERIOLOGY

5

Principles of morphology and function of bacteria. Laboratory work, including unknowns, points out techniques employed in their study. Two laboratories per week. Prerequisites or corequisites: CHEM 321, 322, 323. Offered odd years only.

### BIOL 466 IMMUNOLOGY

4

Study of the immune mechanism with reference to applied areas. Emphasizes laboratory techniques used to solve immunological problems. One laboratory per week. Prerequisites: BIOL 392 or BIOL 465 and CHEM 321, 322, 323. Will not be offered 1991-92 (exclusive of summer).

### BIOL 483 PHILOSOPHY OF ORIGINS AND SPECIATION

3

Comparison of the various theories on the origin and history of living organisms in light of present scientific knowledge in biochemistry, paleontology, morphology, geology, genetics, and other related areas. For majors and minors only. Recommended for senior year.

### BIOL 494 COOPERATIVE EDUCATION/RESEARCH

0

Specialized field or laboratory experience at an off-campus academic, industrial, or government site. A contractual arrangement between student, faculty adviser, and off-campus representative is required before work begins. Prerequisite: CDEV 210 and permission of the Cooperative Education Director and the major adviser.

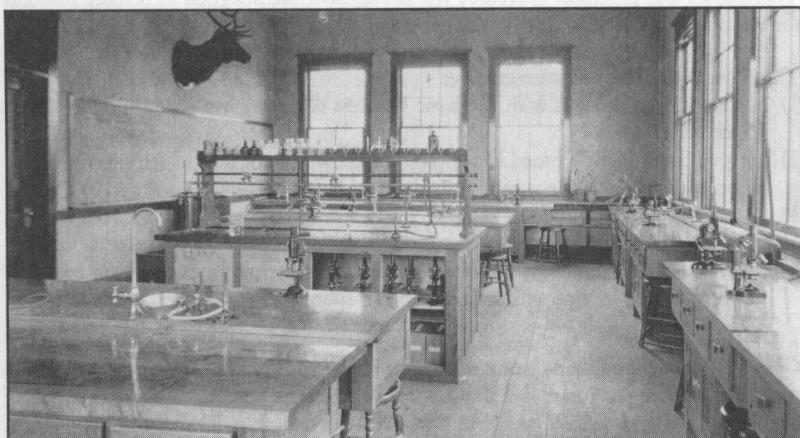
### BIOL 495 COLLOQUIUM

0

Lecture series designed to expose students to modern scientific research and researchers. Each lecture is normally given by a visiting scientist. Six quarters required of all junior, senior and graduate biology majors. Graded S or NC.

**MARINE STATION:**

BIOL 101, 102, 103 or equivalent is prerequisite for all courses listed below. Marine Station courses of 5 credits include an additional credit for the requirement of a research problem (See BIOL 374, BIOL 389, BIOL 403, BIOL 405, BIOL 426, and BIOL 448). Normally a maximum of two of the following courses are taught during a summer; see annual Marine Station bulletin.



Biology and Physiology Lab in Science Hall

**BIOL 458 MARINE BIOLOGY**

5

An integrated approach to understanding the marine environment primarily from an enclo-  
gical perspective. Included are principles of basic oceanography, plankton biology, deep-sea biol-  
ogy, and shallow-water marine communities. Research project and field trips required.

**BIOL 460 MARINE ECOLOGY\***

5

Study of interspecific, intraspecific, and community relationships demonstrated by marine or-  
ganisms.

**BIOL 462 ICHTHYOLOGY\***

5

Systematic study of the fishes found in Puget Sound, with a survey of the fishes of other waters.

**BIOL 463 MARINE BOTANY\***

5

Systematic study of plants found in Puget Sound, with a survey of marine plants from other  
areas.

**BIOL 468 COMPARATIVE PHYSIOLOGY**

5

Comparative study of the physiology and life processes of animals with emphasis on inver-  
tebrates. Prerequisite: BIOL 392.

**BIOL 470 MARINE BIOPHYSICS**

5

Introduction to the physical aspects of living organisms studied by the experimental and con-  
ceptual methods of physics with application to marine life.

**BIOL 475 MARINE INVERTEBRATES\***

5

A study of the biology of selected groups of marine invertebrates.

Please see the *Graduate Bulletin* for a listing of Biological Science graduate courses.

\*Qualifies as a marine-oriented course.

## **BUSINESS**

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Robert Schwab, Chair; Norman Anderson, Michael Buck, Sam Chuah, Ann Gibson, John Haney, Paul Joice, Jae Won Kim, Julie Scott (on leave).

The courses and programs offered by the department are designed to prepare students for business careers with the church, government, and industry.

The objectives of this department are:

- 1) to provide the student with the basic business skills required for initial job placement;
- 2) to give the student a broad background of knowledge of the free enterprise system developed through the several disciplines of business;
- 3) to assist the student in developing a sound Christian philosophy toward our modern political economy and changing business world;
- 4) to encourage Seventh-day Adventist students to prepare for positions of business leadership and service within organizations sponsored by this denomination.

**General Recommendations.** For a student to be successful in the cognate mathematics requirement, it is recommended that two years of high school algebra and one year of geometry be completed. A course in typewriting is desirable. In addition, a course in office machines would prove advantageous in several types of business environments.

**Degrees Offered.** The department offers a Bachelor of Science in Business Administration degree (BSBA) with opportunity to concentrate in the areas of accounting, economics, management, management information systems, or marketing. No minor is required.

A Bachelor of Arts degree with a major in business administration is available to the student who wishes a broader liberal arts preparation than that provided by the BSBA. A minor is required for the BA degree.

An Associate of Science degree is available for those students who, for a variety of reasons, may find it impossible to complete a four-year program without an interruption. This program provides students an opportunity to gain the basic knowledge and skills required for initial job placement. Minors are also available in either business or economics.

Students who plan to teach business subjects at the high-school level should consult with the department chair or follow the business education program listed in the Department of Office Administration. Students may emphasize either business or office occupation skills.

Students who anticipate graduate study in business areas or economics should note the specific requirements of the various schools to which they intend to apply. In general, it is recommended that a minimum of one quarter of calculus be included in the undergraduate program. Curricula of a quantitative nature usually require a year of calculus and additional mathematics courses.

**BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION  
(B.S.B.A.)**

A student seeking the BSBA degree must complete 60 quarter hours of core requirements and a 41 quarter hour concentration in one area of business. In addition, students must complete the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Business Achievement Test.

**Core Requirements:**

**Lower Division Courses:**

|                          |                              |    |
|--------------------------|------------------------------|----|
| ACCT 201, 202, 203<br>or | Principles of Accounting     | 10 |
| ACCT 205, 206            | Principles of Accounting     |    |
| ECON 211                 | Principles of Macroeconomics | 4  |
| ECON 212                 | Principles of Microeconomics | 4  |
| GBUS 263                 | Business Statistics          | 4  |
| MIS 285                  | Computer Principles          | 2  |

**Upper Division Courses:**

|               |                                                   |    |
|---------------|---------------------------------------------------|----|
| FINA 351      | Financial Management                              | 4  |
| GBUS 361, 362 | Business Law I, II                                | 8  |
| GBUS 366      | Operations Management and Production              | 4  |
| GBUS 463      | Business Environment and Ethics                   | 3  |
| GBUS 496      | Seminar                                           | 2  |
| MIS 301       | Introduction to Management<br>Information Systems | 3  |
| MGMT 371      | Management and Organizational Behavior            | 4  |
| MGMT 479      | Business Strategy and Policies                    | 4  |
| MKTG 381      | Marketing                                         | 4  |
|               |                                                   | 60 |

**Cognates:**

|                 |                                                        |     |
|-----------------|--------------------------------------------------------|-----|
| CPTR 105        | Personal Computing                                     | 3   |
| MATH 121<br>and | Fundamentals of Mathematics I                          |     |
| MATH 123<br>or  | Survey of Calculus                                     | 4-8 |
| MATH 181        | Analytic Geometry and Calculus I                       |     |
| OFAD 115        | Keyboarding and Word Processing or<br>proficiency      | 0-3 |
| OFAD 236        | Business Machines or<br>ten-key calculator proficiency | 0-1 |
| OFAD 362<br>or  | Business Communications                                | 3-4 |
| ENGL 325        | Writing for the Professions                            |     |
| PSYC 130        | General Psychology                                     | 4   |
| SPCH 101        | Fundamentals of Speech Communication                   | 4   |

**CONCENTRATION: Accounting**

|                    |                            |    |
|--------------------|----------------------------|----|
| ACCT 321, 322, 323 | Intermediate Accounting    | 11 |
| ACCT 331, 332      | Managerial Cost Accounting | 6  |

**BUSINESS**

|          |                                      |    |
|----------|--------------------------------------|----|
| ACCT 335 | Personal Income Tax                  | 4  |
| ACCT 421 | Advanced Accounting                  | 4  |
| ACCT 430 | Auditing Concepts                    | 3  |
| ACCT 431 | Auditing Practices                   | 3  |
| ACCT     | Electives (8 must be upper division) | 10 |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

41

**CONCENTRATION: Economics**

|          |                                      |    |
|----------|--------------------------------------|----|
| ECON 341 | Managerial Economics                 | 4  |
| ECON 343 | Intermediate Macroeconomics          | 4  |
| ECON 441 | Money and Banking                    | 4  |
| MKTG 451 | Research Methods                     | 4  |
|          | Electives (6 must be upper division) | 25 |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

41

**CONCENTRATION: Management**

|               |                             |    |
|---------------|-----------------------------|----|
| ACCT 331, 332 | Managerial Cost Accounting  | 6  |
| ECON 341      | Managerial Economics        |    |
| or            |                             |    |
| ECON 343      | Intermediate Macroeconomics | 4  |
| MGMT 372      | Human Resources Management  | 4  |
| MGMT 476      | Motivation and Leadership   | 4  |
| MKTG 451      | Research Methods            | 4  |
| MKTG          | An approved MKTG course     | 4  |
|               | Electives                   | 15 |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. The management concentration allows flexibility in creating specific management emphases. Through the careful selection of electives, an emphasis in health care operation, personnel/behavioral management, or quantitative/financial skills can be tailored to the needs of the individual student.

41

**CONCENTRATION: Management Information Systems (MIS)**

|          |                                      |    |
|----------|--------------------------------------|----|
| CPTR 136 | File-Oriented Programming (COBOL)    | 4  |
| CPTR 141 | Introduction to Programming (Pascal) | 4  |
| CPTR 245 | Intermediate Cobol                   | 4  |
| MIS 186  | Intermediate Database Applications   | 2  |
| MIS 315  | Systems Analysis and Design          | 4  |
| MIS 440  | Database Management Systems          | 4  |
| MIS 480  | Seminar in MIS                       | 3  |
| MIS 490  | Projects in MIS                      | 4  |
|          | Electives                            | 12 |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

41

**CONCENTRATION: Marketing**

|          |                                 |   |
|----------|---------------------------------|---|
| ECON 341 | Managerial Economics            | 4 |
| MKTG 383 | Advertising and Sales Promotion | 4 |
| MKTG 384 | Consumer Behavior               | 3 |
| MKTG 451 | Research Methods                | 4 |

|          |                                 |   |
|----------|---------------------------------|---|
| MKTG 479 | Directed Research/Project       | 2 |
| MKTG 489 | Marketing Issues and Strategies | 4 |

Three of the following courses are required:

|          |                                       |    |
|----------|---------------------------------------|----|
| MKTG 385 | Professional Selling                  | 12 |
| MKTG 481 | Public Relations                      |    |
| MKTG 485 | Retailing                             |    |
| MKTG 486 | Marketing of Non-Profit Organizations |    |
| MKTG 488 | International Marketing               |    |

Electives

8

41

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

### MAJOR IN BUSINESS ADMINISTRATION (Bachelor of Arts)

A student majoring in business administration must complete 55 quarter hours in the major, the required cognates, a minor, the general studies which includes a foreign language, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Business Achievement Test.

#### Core Requirements:

##### Lower Division Courses:

|                                           |                              |    |
|-------------------------------------------|------------------------------|----|
| ACCT 201, 202, 203<br>or<br>ACCT 205, 206 | Principles of Accounting     | 10 |
| ECON 211                                  | Principles of Accounting     |    |
| ECON 212                                  | Principles of Macroeconomics | 4  |
| GBUS 263                                  | Principles of Microeconomics | 4  |
| MIS 285                                   | Business Statistics          | 4  |
|                                           | Computer Principles          | 2  |

##### Upper Division Courses:

|          |                                        |    |
|----------|----------------------------------------|----|
| FINA 351 | Financial Management                   | 4  |
| GBUS 361 | Business Law I                         | 4  |
| GBUS 496 | Seminar                                | 2  |
| MGMT 371 | Management and Organizational Behavior | 4  |
| MKTG 381 | Marketing                              | 4  |
|          | Electives (must be upper division)     | 13 |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

55

#### Cognates:

|                                               |                                                                                         |     |
|-----------------------------------------------|-----------------------------------------------------------------------------------------|-----|
| CPTR 105                                      | Personal Computing                                                                      | 3   |
| MATH 121<br>and<br>MATH 123<br>or<br>MATH 181 | Fundamentals of Mathematics I<br>Survey of Calculus<br>Analytic Geometry and Calculus I | 4-8 |
|                                               |                                                                                         |     |
|                                               |                                                                                         |     |

## BUSINESS

|                            |                                                         |     |
|----------------------------|---------------------------------------------------------|-----|
| OFAD 115                   | Keyboarding and Word Processing or proficiency          | 0-3 |
| OFAD 236                   | Business Machines or ten-key calculator proficiency     | 0-1 |
| OFAD 362<br>or<br>ENGL 325 | Business Communications } Writing for the Professions } | 3-4 |
| PSYC 130                   | General Psychology                                      | 4   |
| SPCH 101                   | Fundamentals of Speech Communication                    | 4   |

### BUSINESS (Associate of Science)

A student specializing in business must complete 46 quarter hours in the area, the required cognates, the general studies program, and all associate degree requirements as outlined in this bulletin. Electives may be chosen in consultation with the academic adviser with emphasis in the area of interest such as Management Information Systems.

#### Core Requirements:

|                                                                                                                      |                              |           |
|----------------------------------------------------------------------------------------------------------------------|------------------------------|-----------|
| ACCT 201, 202, 203<br>or<br>ACCT 205, 206                                                                            | Principles of Accounting }   | 10        |
| ECON 211                                                                                                             | Principles of Macroeconomics | 4         |
| FINA 101                                                                                                             | Personal Finance             | 2         |
| GBUS 361                                                                                                             | Business Law I               | 4         |
| MIS 285                                                                                                              | Computer Principles          | 2         |
|                                                                                                                      | Electives                    | <u>24</u> |
| Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. |                              | 46        |

#### Cognates:

|                                              |                                                                   |     |
|----------------------------------------------|-------------------------------------------------------------------|-----|
| CPTR 105                                     | Personal Computing                                                | 3   |
| MATH 105<br>or<br>MATH 117<br>or<br>MATH 121 | Mathematics With Applications } Precalculus }                     | 4-5 |
| OFAD 115                                     | Fundamentals of Mathematics I                                     | 0-3 |
| OFAD 236                                     | Keyboarding and Word Processing or ten-key calculator proficiency | 0-1 |

## MINOR IN BUSINESS

A student minoring in business must complete 30 quarter hours:

|                                                                                                      |                                      |           |
|------------------------------------------------------------------------------------------------------|--------------------------------------|-----------|
| ACCT 201,202,203<br>or<br>ACCT 205, 206                                                              | Principles of Accounting }           | 10        |
| ECON 211                                                                                             | Principles of Macroeconomics         | 4         |
| ECON 212                                                                                             | Principles of Microeconomics         | 4         |
|                                                                                                      | Electives (8 must be upper division) | <u>12</u> |
| Electives must be chosen with and approved by the academic adviser assigned by the department chair. |                                      | 30        |

**MINOR IN ECONOMICS**

A student minoring in economics must complete 30 quarter hours:

|          |                                      |           |
|----------|--------------------------------------|-----------|
| ECON 211 | Principles of Macroeconomics         | 4         |
| ECON 212 | Principles of Microeconomics         | 4         |
| ECON 341 | Managerial Economics                 | 4         |
| ECON 343 | Intermediate Macroeconomics          | 4         |
|          | Electives (8 must be upper division) | <u>14</u> |

Electives must be chosen with and approved by the academic adviser assigned by the department chair.

30

**ACCOUNTING (ACCT)**

**ACCT 201, 202, 203 or 205, 206 PRINCIPLES OF ACCOUNTING 4, 3, 3, or 5, 5**  
 Study of accounting concepts and procedures required in the accumulation and presentation of data needed by management for decision making. Courses must be taken in sequence. Students may choose a two- or three-quarter sequence; the two-quarter sequence (205, 206) is 5 hours per quarter.

**ACCT 222 ACCOUNTING PROJECTS**

2

Individualized laboratory course in which students will complete extended problems or practice sets. Such projects may be completed using manual accounting systems or computer systems where appropriate. If a computer project is anticipated, CPTR 105 and MIS 285 or equivalent are required prerequisites. Permission of instructor is required. Prerequisite: ACCT 116 or 203 or 206.

**ACCT 321, 322, 323 INTERMEDIATE ACCOUNTING**

3, 4, 4

Study of the construction, analysis, and interpretation of financial statements and reports prepared from accounting records. Basic accounting procedures employed in balance sheet evaluation and determination of profit. Prerequisite: ACCT 203 or ACCT 206.

**ACCT 331, 332 MANAGERIAL COST ACCOUNTING**

3, 3

Study of standards and budgets for control, cost-volume-profit relationships, discretionary and committed costs, application of overhead and analysis of variances, accounting systems for accumulating cost data, responsibility centers and controllable costs, long-range planning, and capital budgeting; quantitative techniques and computer problems applied to cost accounting. Prerequisite: ACCT 203 or ACCT 206.

**ACCT 335 PERSONAL INCOME TAX**

4

Study of tax regulations and accounting records necessary for proper tax accounting for individuals.

**ACCT 421 ADVANCED ACCOUNTING**

4

Special accounting problems relating to partnership accounting, consolidated corporate financial statements, branch office accounting, and trusts and estates; includes other topics related to consolidated statements. Prerequisite: ACCT 323.

**ACCT 423, 424 CPA REVIEW**

2, 2

Comprehensive review of problems covering accounting principles, procedures, and presentations as found in the practice section of the CPA examination. Prerequisite: ACCT 323; Recommended prerequisite: ACCT 421.

**ACCT 427 FUND ACCOUNTING**

4

Study of the application of fund accounting principles to various governmental entities, school, hospital, and church accounting systems. Prerequisite: ACCT 203 or ACCT 206. Offered odd years only.

**ACCT 430 AUDITING CONCEPTS**

3

Study of the auditing standards and concepts observed by certified public accountants in the examination of financial statements of business and other organizations. Prerequisite: ACCT 323 or permission of instructor.

## BUSINESS

### ACCT 431 AUDITING PRACTICES

3

Study of auditing concepts emphasizing the application and operation of auditing. Methods of preparation of audit programs, work papers, internal control evaluations, and report writing. Prerequisite: ACCT 430.

### ACCT 435 ADVANCED INCOME TAX

4

Study of partnership and corporation income tax law; includes estate and gift taxes, trust reporting, and researching income tax problems. Prerequisite: ACCT 335 or permission of instructor.

### ACCT 494 COOPERATIVE EDUCATION/INTERNSHIP

0-2

Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in off-campus setting. Allows the student to apply advanced classroom learning. Graded S or NC. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director. No credit will be allowed toward the B.A.

## COMPUTER SCIENCE (CPTR)

See the Computer Science section of this bulletin

### CPTR 136 FILE-ORIENTED PROGRAMMING (COBOL)

4

### CPTR 141 INTRODUCTION TO PROGRAMMING (Pascal)

4

### CPTR 142 DATA STRUCTURES

4

### CPTR 245 INTERMEDIATE COBOL

4



Old College Store

## ECONOMICS (ECON)

### ECON 211 PRINCIPLES OF MACROECONOMICS

4

Basic economic analysis, policy and methodology, with emphasis on economic institutions, the monetary system, and national income determination.

### ECON 212 PRINCIPLES OF MICROECONOMICS

4

Basic analysis of price determination and market structures.

|                                                                                                                                                                                                                                                                                                                                                                               |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>ECON 341 MANAGERIAL ECONOMICS</b>                                                                                                                                                                                                                                                                                                                                          | <b>4</b>   |
| Study of the structure of markets, the determination of prices, the relations of price and cost, income and its functional distribution in a capitalistic economy. Prerequisite: ECON 212.                                                                                                                                                                                    |            |
| <b>ECON 343 INTERMEDIATE MACROECONOMICS</b>                                                                                                                                                                                                                                                                                                                                   | <b>4</b>   |
| Analysis of the determinants of the aggregate level of employment output and income of an economy. Prerequisite: ECON 211. Offered odd years only.                                                                                                                                                                                                                            |            |
| <b>ECON 345 ECONOMIC HISTORY OF THE UNITED STATES</b>                                                                                                                                                                                                                                                                                                                         | <b>4</b>   |
| Study of the economic development of the United States from the colonial period to the present. Recommended prerequisites: ECON 211, 212 or HIST 221. Will not be offered 91-92.                                                                                                                                                                                              |            |
| <b>ECON 441 MONEY AND BANKING</b>                                                                                                                                                                                                                                                                                                                                             | <b>4</b>   |
| Study of the functional activities of the institutions which comprise the American financial system; emphasizing the nature and functions of money, credit and banking. Prerequisite: ECON 211. Offered even years only.                                                                                                                                                      |            |
| <b>ECON 443 COMPARATIVE ECONOMIC SYSTEMS</b>                                                                                                                                                                                                                                                                                                                                  | <b>4</b>   |
| Study of the theoretical bases of capitalism, socialism, and communism; includes a comparison of the modern systems in their response to basic economic problems. Prerequisite: ECON 211, 212. Will not be offered 91-92.                                                                                                                                                     |            |
| <b>ECON 455 PUBLIC FINANCE</b>                                                                                                                                                                                                                                                                                                                                                | <b>4</b>   |
| Governmental expenditures, taxation, public data, and public financial administration; public policies on expenditures, taxation, and debt management and their relation to business fluctuations. Prerequisites: ECON 211, 212. Will not be offered 91-92.                                                                                                                   |            |
| <b>ECON 494 COOPERATIVE EDUCATION/INTERNSHIP</b>                                                                                                                                                                                                                                                                                                                              | <b>0-4</b> |
| Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in off-campus setting. Allows the student to apply advanced classroom learning. Graded S or NC. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director. No credit will be allowed toward the B.A. |            |

**FINANCE (FINA)**

|                                                                                                                                                                                                                                                                                               |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>FINA 101 PERSONAL FINANCE</b>                                                                                                                                                                                                                                                              | <b>2</b> |
| Introduction to the techniques of efficiently managing personal finances. Topics include: record keeping, budgeting, insurance, taxes, borrowing and banking, and investments.                                                                                                                |          |
| <b>FINA 351 FINANCIAL MANAGEMENT</b>                                                                                                                                                                                                                                                          | <b>4</b> |
| Study of the fundamental principles of financial policy in the organization and management of corporate enterprises. Prerequisite: ACCT 203 or ACCT 206.                                                                                                                                      |          |
| <b>FINA 451 INVESTMENTS</b>                                                                                                                                                                                                                                                                   | <b>4</b> |
| Study of the principles of making sound investments in the securities markets, managing investment portfolios, and evaluating securities; the function of speculation, the hedging operation, and the evaluation of market risks. Recommended prerequisite: FINA 351. Offered odd years only. |          |

**GENERAL BUSINESS (GBUS)**

|                                                                                                                                                                                                                                                        |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>GBUS 160 INTRODUCTION TO BUSINESS</b>                                                                                                                                                                                                               | <b>4</b> |
| Introductory course designed to acquaint students with the varied activities and diverse roles which make up the American business system. Includes glimpses of many business career opportunities. Not open to senior business majors.                |          |
| <b>GBUS 263 BUSINESS STATISTICS</b>                                                                                                                                                                                                                    | <b>4</b> |
| Survey of descriptive and inferential statistics with emphasis on business and economics applications. Includes probability, probability distributions, sampling distributions, estimation and hypothesis testing. Prerequisite: MATH 123 or MATH 181. |          |

## BUSINESS

**GBUS 361 BUSINESS LAW I** 4  
An introduction to the United States legal system, the legal environment and the types and sources of laws. Also covered are contracts, agency and business organizations.

**GBUS 362 BUSINESS LAW II** 4  
Studies government regulation of business and relevant sections of the Uniform Commercial Code including sales, banking, documents of title, commercial paper and secured transactions. Prerequisite: GBUS 361.

**GBUS 365 PRINCIPLES OF INSURANCE** 4  
Study of insurance contracts, underwriting organizations and insurance representation and procedures. Offered odd years only.

**GBUS 366 OPERATIONS MANAGEMENT AND PRODUCTION** 4  
The application of management principles and mathematical techniques to production problems and decisions faced in both manufacturing and service organizations. Topics include forecasting, linear programming, network models, queues, transportation and assignment problems, inventory models, production scheduling, quality control, layout and maintenance problems. Prerequisite: GBUS 263.

**GBUS 367 REAL ESTATE** 4  
Survey of the basic principles and problems of real estate management and appraisal.

**GBUS 463 BUSINESS ENVIRONMENT AND ETHICS** 3  
Introduces students to the interplay between organizations and their technological, economic, social, and political environments. The impact of a dynamic environment upon the firm is explored, and appropriate organizational responses are assessed. Ethical considerations of business decisions are examined in light of a Christian value system. Case studies. Open to Senior Business majors and minors only.

**GBUS 496 SEMINAR** 2  
Introduction to business and economics research, problems, and trends. Students will conduct independent study and research leading to a formal paper. Open only to majors during senior year.

## MANAGEMENT (MGMT)

**MGMT 275 MANAGEMENT OF SMALL BUSINESS** 3  
Introduction to various concepts peculiar to the small business enterprise. Recommended prerequisite: ACCT 203 or ACCT 206.

**MGMT 371 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR** 4  
Introduction to the concepts of effective management in organizational settings from an individual and macro-systems perspective. Primary emphases include the organizational processes necessary for organizational effectiveness (planning, organizing, directing, and controlling), the nature of individual and group behavior, and the role of management in facilitating a mutually satisfying fit between employee needs and organizational requirements.

**MGMT 372 HUMAN RESOURCES MANAGEMENT** 4  
A survey of the objectives and problems associated with personnel management in organizations. Topics include studies in human resources planning and forecasting, job analysis and evaluation, personnel recruitment, selection and assessment, training and development, performance evaluation, compensation and benefits, grievance procedures and disciplinary actions. Prerequisite: MGMT 371.

**MGMT 373 INTRODUCTION TO HEALTH CARE ORGANIZATIONS** 2  
Introduction to the history, concepts, and activities of health care systems. Focuses on the basic elements, the changing nature of the system, and issues confronting the future health care system. Recommended prerequisites: ACCT 203 or ACCT 206 and MGMT 371.

**MGMT 377 LABOR RELATIONS AND COLLECTIVE BARGAINING** 4  
 An examination of the role of unions in our society. Topics will include union evolution and organization, labor legislation, collective bargaining issues and tactics, dispute resolution, and the future of labor-management relations. Recommended prerequisites: GBUS 361, 362; MGMT 372. Will not be offered 1991-92

**MGMT 379 COMPENSATION MANAGEMENT** 3  
 Study of procedures used in job analysis, evaluation, and performance appraisal; determining compensable factors and fringe benefits; considering legal and ethical matters; administering the compensation program. Prerequisite: MGMT 371. Recommended prerequisite: MGMT 372. Offered even years only.

**MGMT 473 PRODUCTION MANAGEMENT** 3  
 A systems-oriented view of the production management field. Analysis and synthesis of elements common to production management. Prerequisites: ACCT 203 or ACCT 206 and MGMT 371. Will not be offered 91-92.

**MGMT 475 HEALTH CARE ORGANIZATION AND MANAGEMENT** 2  
 Analysis of health care organization with emphasis on organizational functions, structure, financial planning, and financial controls. Prerequisites: ACCT 203 or ACCT 206; MGMT 371; MGMT 373.

**MGMT 476 MOTIVATION AND LEADERSHIP** 4  
 Advanced topics dealing with individual and organizational factors affecting employee motivation, performance, and satisfaction. Specific attention given to group dynamics, reward systems, and leadership roles. Case studies. Recommended prerequisite: MGMT 371.

**MGMT 479 BUSINESS STRATEGY AND POLICIES** 4  
 A study of business operations from an integrated viewpoint. Knowledge from the functional areas of business is applied to strategic issues and problems found in several organizational settings. Library research, business simulations, in-depth case analyses, and formal presentations required. Prerequisites: business core requirements completed or concurrently taken.

**MGMT 494 COOPERATIVE EDUCATION/INTERNSHIP** 0-4  
 Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in off-campus setting. Allows the student to apply advanced classroom learning. Graded S or NC. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director. No credit will be allowed toward the B.A.

## MANAGEMENT INFORMATION SYSTEMS (MIS)

**MIS 186 INTERMEDIATE DATABASE APPLICATIONS** 2  
 An intermediate exposure to business database applications. This course emphasizes the application of current database software to business projects and problems. Students will learn the capabilities of database management systems, and will build small databases for several specific business applications and problems. Prerequisite: CPTR 105 or equivalent, or permission of instructor.

**MIS 187 INTERMEDIATE SPREADSHEET APPLICATIONS** 2  
 An intermediate exposure to business spreadsheet applications. Students will learn the capabilities of spreadsheet programs and will apply these programs to several specific business projects and problems. This course emphasizes business applications and problem solving. Prerequisite: CPTR 105 or equivalent, or permission of instructor.

**MIS 250 BUSINESS GRAPHICS** 2  
 The use of graphic packages for business applications of presentations, training, and communication. Prerequisites: CPTR 105, MIS 285.

**MIS 285 COMPUTER PRINCIPLES** 2  
 Survey of the fundamental concepts of the computer as a tool for the individual and business. Topics include the history of computers, technology, societal issues, personal purchase and use, and programming languages. Recommended prerequisite: CPTR 105.

**MIS 301 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS (MIS)**

3

An overview of Management Information Systems (MIS); structure of information systems which support a wide range of organizational functions from routine processes to managerial decision making. Includes the development, operation, and evaluation of information systems, with examples drawn from application areas. Prerequisites: CPTR 105 and MIS 285 or a programming language. Recommended prerequisites: ACCT 203 or 206 and MGMT 371.

**MIS 315 SYSTEMS ANALYSIS AND DESIGN**

4

The use of systems concepts through the systems development life cycle of analysis, design, development, implementation and evaluation, as applied to computer systems within organizations. Prerequisite: MIS 230. Recommended prerequisite: MIS 301.



Commercial class of 1917 on fourth floor of Administration building

**MIS 440 DATABASE MANAGEMENT SYSTEMS**

4

Concepts and methods in the management of the organizational data resource. Includes database management objectives, selection, acquisition, design, definition, creation, update, maintenance, revision, and use; role of the database administrator; database integrity, security, and privacy. Prerequisite: MIS 186. Recommended prerequisites: MIS 301, 315.

**MIS 480 SEMINAR IN MIS**

3

An advanced class that covers the trends and future developments in Management Information Systems. A capstone course that ties together MIS topics and concepts in a theoretical setting. Prerequisites: MIS 301, 330, 440, AND permission of instructor.

**MIS 490 PROJECTS IN MIS**

4

Application of management and technical skills to a real life situation. Students work in teams in the role of consultant and/or systems analyst. Prerequisites: MIS 315; 440; AND permission of instructor.

**MIS 494 COOPERATIVE EDUCATION/INTERNSHIP**

0-4

Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in off-campus setting. Allows the student to apply advanced classroom learning. Graded S or NC. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director. No credit will be allowed toward the B.A.

**MARKETING (MKTG)****MKTG 381 MARKETING**

4

Study of consumers, markets, environments, and major marketing methods from the perspective of the marketing manager. Recommended prerequisite: ECON 212.

**MKTG 383 ADVERTISING AND SALES PROMOTION**

4

Study of the principles, functions, forms, and techniques of advertising; considers advertising media, personnel, and institutions; persuasive mass communications in marketing; includes problem analysis and solution planning, budgeting, research, the use of media and creative techniques. Recommended prerequisite: MKTG 381.

**MKTG 384 CONSUMER BEHAVIOR**

3

A study of the needs and attitudes of people that influence consumption decisions. Prerequisites: MKTG 381; PSYC 130.

**MKTG 385 PROFESSIONAL SELLING**

4

Study and practice of the basic principles of effective sales presentation development; also considers management of the selling effort.

**MKTG 451 RESEARCH METHODS**

4

Introduction to research methods for business, including design data collection and analysis of surveys. Provides experience in business research activities. Prerequisites: GBUS 263; MKTG 381. Laboratory required.

**MKTG 479 DIRECTED RESEARCH/PROJECT**

2; 4

Application of marketing techniques to a special project for a local business. Project will usually involve survey research. Prerequisite: MKTG 451, or permission of instructor.

**MKTG 481 PUBLIC RELATIONS**

4

Introduction to public relations as a promotional activity of the firm; analysis of the techniques used to create and maintain goodwill.

**MKTG 485 RETAILING**

4

An extensive study of various types of retail organizations and functions. Attention given to problems related to trading area analysis, site selection, consumer behavior, and promotion.

**MKTG 486 MARKETING OF NON-PROFIT ORGANIZATIONS**

4

An examination of the unique marketing needs of non-profit institutions, and the application of various strategic marketing methods including research, product/service development, promotion, distribution, pricing and customer service. Recommended prerequisite: MKTG 381.

**MKTG 488 INTERNATIONAL MARKETING**

4

Marketing management problems, techniques, and strategies necessary to incorporate the marketing concept into the framework of the world marketplace. Prerequisites: ECON 212; MKTG 381.

**MKTG 489 MARKETING ISSUES AND STRATEGIES**

4

A capstone course for marketing majors. Develops marketing planning and implementation skills through case and field studies. Also considers current marketing issues. Prerequisites: MKTG 381, permission of instructor, and senior standing.

**MKTG 494 COOPERATIVE EDUCATION/INTERNSHIP**

0-4

Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in off-campus setting. Allows the student to apply advanced classroom learning. Graded S or NC. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director. No credit will be allowed toward the B.A.

# **CHEMISTRY**

Steven Lee, Chair; Michael Brown, Richard Daley, Bob Rittenhouse.

The department seeks to introduce students to a basic science in a Christian environment and to acquaint majors with the principal chemical disciplines: analytical, biochemistry, inorganic, organic, and physical. Majors are encouraged to conduct original investigation as preparation for graduate and professional education and for careers in teaching and the chemical sciences. The department offers programs leading to the Bachelor of Arts and Bachelor of Science degrees.

## **MAJOR IN CHEMISTRY (Bachelor of Arts)**

A student majoring in chemistry must complete 52 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. A minor must be chosen for the Bachelor of Arts degree. Senior students are required to take the Graduate Record Examination, general and subject (Chemistry) sections.

### **Major Requirements:**

|                    |                                                                                                                                                      |    |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| CHEM 141, 142, 143 | General Chemistry                                                                                                                                    | 9  |
| CHEM 144, 145, 146 | General Chemistry Laboratory                                                                                                                         | 3  |
| CHEM 264           | Chemical Equilibrium and Analysis                                                                                                                    | 4  |
| CHEM 265           | Analytical Instrumental Methods I                                                                                                                    | 4  |
| CHEM 321, 322, 323 | Organic Chemistry                                                                                                                                    | 9  |
| CHEM 324, 325, 326 | Microscale Organic Laboratory                                                                                                                        | 3  |
| CHEM 351, 352, 353 | Physical Chemistry                                                                                                                                   | 9  |
| CHEM 354, 355, 356 | Physical Chemistry Laboratory                                                                                                                        | 3  |
| CHEM 479           | Directed Research/Project }<br>or                                                                                                                    | 2  |
| CHEM 494           | Cooperative Education }<br>CHEM 496, 497                                                                                                             | 2  |
|                    | Chemistry Seminar }<br>Electives }<br>Electives must be chosen in consultation with and approved by the academic advisor assigned by the department. | 4  |
|                    |                                                                                                                                                      | 52 |

### **Cognates:**

|                    |                                               |    |
|--------------------|-----------------------------------------------|----|
| CPTR 141           | Introduction to Programming (Pascal)          | 4  |
| MATH 181, 281      | Analytic Geometry and Calculus I, II          | 8  |
| PHYS 211, 212, 213 | General Physics                               |    |
| PHYS 214, 215, 216 | General Physics Laboratory }<br>or            |    |
| PHYS 251, 252, 253 | Principles of Physics }<br>PHYS 254, 255, 256 | 12 |
|                    | Principles of Physics Laboratory }            |    |

## **MAJOR IN CHEMISTRY (Bachelor of Science)**

A student majoring in chemistry must complete 65 quarter hours in the major, the required cognates, and the general studies program for the baccalaureate degree as outlined in this bulletin. No minor is required for the Bachelor of Science degree, but minors in both mathematics and physics are recommended. The Graduate Record Examination in chemistry is required.

**Major Requirements:**

|                    |                                   |    |
|--------------------|-----------------------------------|----|
| CHEM 141, 142, 143 | General Chemistry                 | 9  |
| CHEM 144, 145, 146 | General Chemistry Laboratory      | 3  |
| CHEM 264           | Chemical Equilibrium and Analysis | 4  |
| CHEM 265           | Analytical Instrumental Methods I | 4  |
| CHEM 321, 322, 323 | Organic Chemistry                 | 9  |
| CHEM 324, 325, 326 | Microscale Organic Laboratory     | 3  |
| CHEM 351, 352, 353 | Physical Chemistry                | 9  |
| CHEM 354, 355, 356 | Physical Chemistry Laboratory     | 3  |
| CHEM 479           | Directed Research/Project         |    |
| or                 |                                   |    |
| CHEM 494           | Cooperative Education             |    |
| CHEM 496, 497      | Chemistry Seminar                 | 2  |
|                    | Electives                         |    |
|                    |                                   | 16 |
|                    |                                   | 65 |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department.

**Cognates:**

|                    |                                      |    |
|--------------------|--------------------------------------|----|
| CPTR 141           | Introduction to Programming (Pascal) | 4  |
| MATH 181, 281-283  | Analytic Geometry and Calculus, I-IV | 16 |
| PHYS 211, 212, 213 | General Physics                      |    |
| PHYS 214, 215, 216 | General Physics Laboratory           |    |
| or                 |                                      |    |
| PHYS 251, 252, 253 | Principles of Physics                |    |
| PHYS 254, 255, 256 | Principles of Physics Laboratory     |    |
|                    |                                      | 12 |

**MINOR IN CHEMISTRY**

A student minoring in chemistry must complete 27 quarter hours; 3 must be upper division. The following courses are required:

|                    |                                                |    |
|--------------------|------------------------------------------------|----|
| CHEM 141, 142, 143 | General Chemistry                              | 9  |
| CHEM 144, 145, 146 | General Chemistry Laboratory                   | 3  |
| CHEM 321, 322, 323 | Organic Chemistry                              | 9  |
| CHEM 324, 325, 326 | Microscale Organic Laboratory                  | 3  |
|                    | Electives (in addition to General and Organic) | 3  |
|                    |                                                | 27 |

Approval of department chair required.

**CHEMISTRY (CHEM)****CHEM 101, 102, 103 INTRODUCTORY CHEMISTRY** 4, 4, 3

Introduction to chemistry, covering the fields of inorganic, organic, and biochemistry. Only CHEM 101 and 102 will meet the general studies requirement for a science sequence but does not apply toward a major or minor. Must be taken in sequence. One laboratory per week during the CHEM 101 and 102 courses.

**CHEM 141, 142, 143 GENERAL CHEMISTRY** 3, 3, 3

Study of the structure and states of matter; atomic and molecular theory, including valency, periodicity, and bonding; solutions and equilibria, stoichiometry, kinetics, and thermodynamics; and the descriptive chemistry of metals and nonmetals. Must be taken in sequence. Prerequisites or corequisites: MATH 121, 122 or equivalent; CHEM 144, 145, 146.

## CHEMISTRY

**CHEM 144, 145, 146 GENERAL CHEMISTRY LABORATORY** 1, 1, 1  
Laboratory integrated with CHEM 141, 142, 143. One laboratory per week. Corequisite: CHEM 141, 142, 143.

**CHEM 264 CHEMICAL EQUILIBRIUM AND ANALYSIS** 4  
Study of chemical equilibrium through a perspective of applications in analytical chemistry. Consideration is given to solubility as affected by competing equilibria, to acid-base equilibria in aqueous solutions, and to complexation equilibria; includes an introduction to oxidation reduction equilibria. One laboratory per week. Prerequisite: CHEM 143.

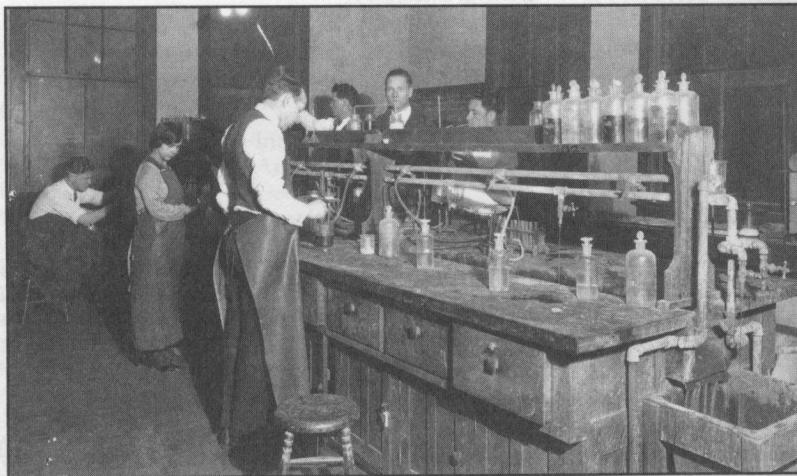
**CHEM 265 ANALYTICAL INSTRUMENTAL METHODS I** 4  
Primary emphasis on electrochemistry and optical spectroscopies. Consideration is given to both the instrumentation and techniques of interest to the analytical and clinical chemist. Other topics include sampling and analysis of complex samples. One laboratory per week. Prerequisite: CHEM 264.

**CHEM 321, 322, 323 ORGANIC CHEMISTRY** 3, 3, 3  
Study of principles of organic chemistry and their application to the preparation, properties, and reactions of organic compounds. Spectroscopic analysis of organic compounds. Prerequisite: CHEM 143. Prerequisite or corequisite: CHEM 324, 325, 326.

**CHEM 324, 325, 326 MICROSCALE ORGANIC LABORATORY** 1, 1, 1  
Introduction to microscale techniques of preparation, purification, and identification of organic compounds. Includes spectroscopic techniques. One laboratory per week. Corequisite: CHEM 321, 322, 323.

**CHEM 351, 352, 353 PHYSICAL CHEMISTRY** 3, 3, 3  
Survey of important topics in physical chemistry. The first quarter emphasizes quantum theory with applications to atomic structure, molecular structure, and spectroscopy. Second quarter includes thermodynamics applied to phase and chemical equilibria. Third quarter deals with kinetics, transport properties, and molecular dynamics. Prerequisites: MATH 281; PHYS 213 or PHYS 253; CHEM 265; CPTR 134 or CPTR 141.

**CHEM 354, 355, 356 PHYSICAL CHEMISTRY LABORATORY** 1, 1, 1  
Laboratory integrated with CHEM 351, 352, 353. Corequisite: CHEM 351, 352, 353.



Professor Bowers and students in chemistry laboratory

|                                                                                                                                                                                                                                                                                                                                                                                                 |             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>CHEM 395 METHODS OF TEACHING CHEMISTRY</b>                                                                                                                                                                                                                                                                                                                                                   | <b>3</b>    |
| Methods, materials, and techniques of teaching chemistry on the secondary-school level. Requires observation, demonstration, and class presentations. Will not apply toward a major or minor. Offered on demand.                                                                                                                                                                                |             |
| <b>CHEM 427 ORGANIC STRUCTURE AND MECHANISMS</b>                                                                                                                                                                                                                                                                                                                                                | <b>3</b>    |
| In-depth study of the structures of organic molecules and the theories of reaction mechanisms. One laboratory per week. Prerequisite: CHEM 323. Offered odd years only.                                                                                                                                                                                                                         |             |
| <b>CHEM 428 POLYMER CHEMISTRY</b>                                                                                                                                                                                                                                                                                                                                                               | <b>3</b>    |
| An introduction to polymers, their characterization and synthesis. One laboratory per week. Prerequisite: CHEM 323. Offered even years only.                                                                                                                                                                                                                                                    |             |
| <b>CHEM 431, 432 BIOCHEMISTRY</b>                                                                                                                                                                                                                                                                                                                                                               | <b>3, 3</b> |
| Study of the chemistry of carbohydrates, lipids, proteins, nucleic acids, and porphyrins; the nature and mode of action of enzymes; intermediary metabolism. Prerequisite: CHEM 323. Recommended Prerequisite: BIOL 392. Corequisite: CHEM 433, 434.                                                                                                                                            |             |
| <b>CHEM 433, 434 BIOCHEMISTRY LABORATORY METHODS</b>                                                                                                                                                                                                                                                                                                                                            | <b>1, 1</b> |
| Introduction to biochemical methods and preparations, including instrumental applications. Corequisite: CHEM 431, 432 or permission of instructor.                                                                                                                                                                                                                                              |             |
| <b>CHEM 442 CHEMISTRY OF MAIN GROUP ELEMENTS</b>                                                                                                                                                                                                                                                                                                                                                | <b>3</b>    |
| Study of energetics and structures as guides to main group chemistry. Lewis acid-base concepts. Prerequisites: CHEM 143; CHEM 351 or permission of instructor. Offered even years only.                                                                                                                                                                                                         |             |
| <b>CHEM 443 TRANSITION METAL CHEMISTRY</b>                                                                                                                                                                                                                                                                                                                                                      | <b>3</b>    |
| Study of coordination chemistry of first row transition elements, crystal field and Ligand theory, and organometallics. One laboratory per week. Prerequisites: CHEM 143; CHEM 351 or permission of instructor. Offered odd years only.                                                                                                                                                         |             |
| <b>CHEM 461 ANALYTICAL INSTRUMENTAL METHODS II</b>                                                                                                                                                                                                                                                                                                                                              | <b>4</b>    |
| Study of chromatographic separation techniques, nuclear magnetic resonance, and mass spectroscopy as tools for analytical studies. One Laboratory per week. Prerequisite: CHEM 265.                                                                                                                                                                                                             |             |
| <b>CHEM 479 DIRECTED RESEARCH/PROJECT</b>                                                                                                                                                                                                                                                                                                                                                       | <b>1-3</b>  |
| Original investigation of a chemical research problem carried out under the direction of an assigned faculty member. Most projects involve one laboratory period per week per credit hour.                                                                                                                                                                                                      |             |
| <b>CHEM 494 COOPERATIVE EDUCATION</b>                                                                                                                                                                                                                                                                                                                                                           | <b>0-3</b>  |
| Chemical research conducted at an off-campus site, usually in an industrial, academic, or government laboratory. A contractual arrangement involving the student, faculty adviser, and the off-campus site is required before work begins. If taken for credit, the student must submit a written report of the research upon completion of the work. Prerequisite: Approval of the department. |             |
| <b>CHEM 496, 497 CHEMISTRY SEMINAR</b>                                                                                                                                                                                                                                                                                                                                                          | <b>1, 1</b> |
| Formal introduction to fields of current chemical research. Student will prepare and present papers covering various areas of chemical research as well as attend all Chemistry Colloquia. Prerequisites: CHEM 265; CHEM 323 or permission of instructor.                                                                                                                                       |             |

## COMMUNICATIONS

Loren Dickinson, Chair; David Bullock, James Hannum, Donnie Rigby, Nancy Semotiuk.

The department's programs are intended to develop articulate Christian communicators while preparing students in communications-related professions. The department offers two majors, with minors in speech communication, journalism, and communications.

The mass communication major is offered through the cooperation of several departments whose courses include mass communication areas. It trains, primarily, those interested in journalism, broadcasting, audio and visual production, public relations, and fund raising. This major also provides a preprofessional foundation which enables students to take advanced work in a specialized communications area such as advertising and marketing.

Students interested in preparing for careers in institutional development (fund raising) are advised to take a major in mass communication (journalism and public relations concentration) or business. Additional electives in communications and business may be selected in consultation with the communications department.

The speech communication major emphasizes public, small group, and interpersonal communication. It is designed for the student intending to teach oral communication, or is used as an adjunct to other preparations in which interpersonal and public speech communication skills are particularly important.

### MAJOR IN MASS COMMUNICATION (Bachelor of Arts)

A student majoring in Mass Communication must complete the core requirements and one concentration totaling 57 hours, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general and subject (Communications ) sections.

#### Core Requirements:

|               |                                      |    |
|---------------|--------------------------------------|----|
| COMM 145      | Mass Communication Media             | 4  |
| COMM 231      | Broadcast Techniques and Announcing  | 4  |
| COMM 357      | Communication Law and Ethics         | 3  |
| COMM 495      | Senior Project                       | 1  |
| COMM 496, 497 | Seminar in Mass Media                | 3  |
| JOUR 245      | Journalistic Writing                 | 4  |
| SPCH 101      | Fundamentals of Speech Communication | 4  |
|               |                                      | 23 |

#### CONCENTRATION: Journalism and Public Relations

|          |                           |   |
|----------|---------------------------|---|
| COMM 333 | Principles of Development | 4 |
| JOUR 246 | Reporting Methods         | 3 |
| JOUR 257 | Photojournalism           | 2 |
| JOUR 341 | Magazine Article Writing  | 4 |
| JOUR 451 | Publication Production    | 4 |

COMMUNICATIONS

|          |                                                                                                                      |           |
|----------|----------------------------------------------------------------------------------------------------------------------|-----------|
| MKTG 481 | Public Relations<br>Electives (at least 6 must be writing;<br>up to 4 may be COMM courses)                           | 4<br>13   |
|          | Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. | <u>34</u> |

**CONCENTRATION: Media**

|          |                                                                                                                                    |    |
|----------|------------------------------------------------------------------------------------------------------------------------------------|----|
| COMM 301 | Audio Production                                                                                                                   | 4  |
| COMM 302 | Video Production                                                                                                                   | 4  |
| COMM 303 | Video Production                                                                                                                   |    |
| or       |                                                                                                                                    |    |
| COMM 305 | Multi-Image Design and Production                                                                                                  | 4  |
| COMM 352 | Broadcast and Cable Systems                                                                                                        | 4  |
| MKTG 381 | Marketing                                                                                                                          |    |
| or       |                                                                                                                                    |    |
| MKTG 383 | Advertising and Sales Promotion                                                                                                    | 4  |
| or       |                                                                                                                                    |    |
| MKTG 481 | Public Relations                                                                                                                   |    |
|          | Electives (at least 6 must be writing;<br>May include courses listed in the COMM<br>and JOUR curricula and the following courses:) | 14 |
| SPCH 107 | Voice and Articulation                                                                                                             |    |
| SPCH 211 | Oral Interpretation                                                                                                                |    |
| SPCH 252 | Play Production                                                                                                                    |    |
| SPCH 363 | History of Dramatic Arts                                                                                                           |    |
| SPCH 365 | Play Direction                                                                                                                     |    |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

34

**Cognates:**

|          |                                        |     |
|----------|----------------------------------------|-----|
| ART 244  | Commercial Art                         |     |
| or       |                                        |     |
| GRPH 295 | Printing Layout and Design             | 2-3 |
| GRPH 221 | Introduction to Graphics & Lithography |     |
| or       |                                        |     |
| GRPH 271 | Computer Assisted Publishing           | 2-3 |
| CPTR 105 | Personal Computing (or proficiency)    |     |
| or       |                                        |     |
| OFAD 117 | Word Processing                        | 0-3 |
| PHTO 154 | Principles of Photography              | 2   |
| PHTO 155 | Principles of Photography Laboratory   | 1   |

**MAJOR IN SPEECH COMMUNICATION (Bachelor of Arts)**

A student majoring in speech communication must complete 50 quarter hours in the major, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general and subject (Communications) sections.

## COMMUNICATIONS

### Major Requirements:

|                                                                                                                      |                                                                                                                                                                                                       |        |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| COMM 145                                                                                                             | Mass Communication Media                                                                                                                                                                              | 4      |
| JOUR 245                                                                                                             | Journalistic Writing                                                                                                                                                                                  | 4      |
| SPCH 101                                                                                                             | Fundamentals of Speech Communication                                                                                                                                                                  | 4      |
| SPCH 107                                                                                                             | Voice and Articulation                                                                                                                                                                                | 4      |
| SPCH 211                                                                                                             | Oral Interpretation                                                                                                                                                                                   | 4      |
| SPCH 310                                                                                                             | Interpersonal and Nonverbal Communication                                                                                                                                                             | 3      |
| SPCH 341                                                                                                             | Argumentation }<br>Persuasive Speaking }<br>Seminar in Speech Communication                                                                                                                           | 4<br>2 |
| or                                                                                                                   | Electives (12 must be upper division;<br>may include up to 8 hours from among<br>courses with COMM or JOUR prefixes,<br>or courses cited in the SPCH curriculum<br>but offered by other departments.) | 21     |
| SPCH 443                                                                                                             |                                                                                                                                                                                                       |        |
| SPCH 496                                                                                                             |                                                                                                                                                                                                       |        |
| Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. |                                                                                                                                                                                                       | 50     |

### MINOR IN COMMUNICATIONS

A student minoring in Communications must complete 30 quarter hours.

|                                                                         |    |
|-------------------------------------------------------------------------|----|
| Electives (selected from COMM, JOUR, SPCH;<br>9 must be upper division) | 30 |
|-------------------------------------------------------------------------|----|

In addition to courses from the department, a maximum of 10 credits may be selected from the following:

|          |                                 |   |
|----------|---------------------------------|---|
| ENGL 215 | Film Literature                 | 4 |
| PHTO 154 | Principles of Photography       | 2 |
| PHTO 155 | Principles of Photography Lab   | 1 |
| MKTG 383 | Advertising and Sales Promotion | 4 |
| MKTG 481 | Public Relations                | 4 |
| GRPH 271 | Computer Assisted Publishing    | 2 |

Approval of communications adviser required.

### MINOR IN SPEECH COMMUNICATION

A student minoring in speech communication must complete 27 quarter hours:

|          |                                      |    |
|----------|--------------------------------------|----|
| SPCH 101 | Fundamentals of Speech Communication | 4  |
|          | Electives (9 must be upper division) | 23 |
|          |                                      | 27 |

Approval of speech communication adviser required.

### MINOR IN JOURNALISM

A student minoring in journalism must complete 27 quarter hours.

|          |                                                                                   |    |
|----------|-----------------------------------------------------------------------------------|----|
| COMM 145 | Mass Communication Media                                                          | 4  |
| JOUR 245 | Journalistic Writing                                                              | 4  |
| JOUR 246 | Reporting Methods                                                                 | 3  |
|          | Electives (9 must be upper division;<br>minimum of one additional writing course) | 16 |
|          |                                                                                   | 27 |

Approval of journalism adviser required.

## COMMUNICATIONS (COMM)

## COMM 145 MASS COMMUNICATION MEDIA 4

Introduction to the organization, operation, and control of the mass media in America, with emphasis on the social function of mass communication and the characteristics of media audiences.

## COMM 231 BROADCAST TECHNIQUES AND ANNOUNCING 4

Introduction to radio station control room operations and announcing performance for radio and television. Emphasis on vocal delivery and on-camera performance for a variety of program types and broadcast situations including continuity, commercials, music, news, interviews, and talk shows. Will not be offered 1991-92.

## COMM 275 COMMUNICATION THEORY 2

Examination of contemporary thought on the nature and process of communication. Offered even years only.

## COMM 301 AUDIO PRODUCTION 4

Advanced study of the aesthetics of the sound medium and procedures for creative sound production in various media. Covers directing the audio session, studio and remote recording, mixing, production music and sound effects, music recording, and technical quality control. Prerequisite: COMM 231.

## COMM 302, 303 VIDEO PRODUCTION 4, 4

Study of video and film production principles and techniques. Includes single and multi-camera operations, directing, video recording, program design, budgeting, lighting, post-production editing, and sound sweetening. One laboratory per week. Prerequisite: COMM 231 or equivalent experience.

## COMM 305 MULTI-IMAGE DESIGN AND PRODUCTION 4

Study and experience in scripting, budgeting, slide photography, titling, audio production, and synchronization for single and multiprojector slide-sound programs. Prerequisites: COMM 231 or equivalent; PHOTO 154. Will not be offered 1991-92.

## COMM 333 PRINCIPLES OF DEVELOPMENT 4

Study of the philosophy, role, organization, and strategies of institutional development and fund raising. Includes consideration of annual funds, capital campaigns, special events, and direct mail.

## COMM 235 PERSONAL VIDEO 4

An introduction to the video medium as a means of personal expression and communication. Emphasis is on the effective use of the camcorder to convey one's personal perspective of ideas and events. Both in-camera and elementary post production editing are covered as are basic principles of filmic language and esthetics. Limited enrollment. No prerequisites. Does not apply to the major.

## COMM 352 BROADCAST AND CABLE SYSTEMS 4

Study of the organization, operation, and programming of stations, networks, cable services, and related activities, including religious broadcasting. Also includes an introduction to audience analysis and an overview of world systems of broadcasting. Will not be offered 1991-92.

## COMM 357 COMMUNICATION LAW AND ETHICS 3

Study of the legal and ethical aspects of the news-gathering materials for articles and preparation of manuscripts for publication. Offered odd years only.

## COMM 401 ADVANCED VIDEO PRODUCTION 4

The course emphasizes advanced production techniques using film style, single camera production, project planning, budgeting and management. Post production techniques include A-B roll match frame/special effects editing with time code. Multitrack audio sweetening and layback. Student creates a professional quality project for a designated use. Prerequisites: COMM 301, 302, 303.

## COMMUNICATIONS

**COMM 410 VIDEO POST PRODUCTION OPERATIONS** 1  
Experience and in-depth study of the operation of communication department post production video and audio facilities. Prerequisites: COMM 301, 302, 303.

**COMM 479 DIRECTED MEDIA PRODUCTION** 1-4  
Refinement of media production skills in areas where the student has demonstrated potential in production-related courses. Under the instructor's supervision, the student designs and completes a project. Prerequisite: Permission of the instructor.

**COMM 494 COOPERATIVE EDUCATION/PRACTICUM IN MASS MEDIA** 0-4  
Practical experience in news reporting and editing, public relations, broadcasting or media production. The student works under the co-direction of professionals in participating agencies and the department. Evaluated on the S or NC basis. Instructor's permission must be obtained one quarter before registration.

**COMM 495 SENIOR PROJECT** 1  
A student-selected, department-approved project to demonstrate the student's ability to perform in his/her major field of instruction. Satisfactory completion of this course constitutes the department comprehensive requirement for the bachelor's degree. This course will be evaluated on the S or NC basis.

**COMM 496, 497 SEMINAR IN MASS MEDIA** 2, 1  
An integrating course required of all mass media majors in the senior year. Study includes a review of literature, research, and research methods in media; experience in writing critical reviews; individual research projects in areas of special relevance to the student; group conferences and oral presentation of formal papers.

## JOURNALISM (JOUR)

**JOUR 245 JOURNALISTIC WRITING** 4  
Introduction to gathering facts and writing news stories for mass media audiences. Prerequisites: ENGL 121, 122.

**JOUR 246 REPORTING METHODS** 3  
Basic training in the use of interviewing and other social research techniques for the gathering and reporting of news. Prerequisite: JOUR 245.

**JOUR 257 PHOTOJOURNALISM** 2  
Photography for publication; includes composition, cropping, caption writing, and picture-page layout. Students are expected to have their own cameras. Prerequisite: PHTO 155 or equivalent.

**JOUR 341 MAGAZINE ARTICLE WRITING** 4  
Analysis of magazine markets, fundamentals of gathering materials for articles, and preparation of manuscripts for publication.

**JOUR 412 SCRIPT WRITING** 3  
Writing techniques for multimedia, drama, documentary, broadcast (commercials, news, continuity), and instructional media. Prerequisite: ENGL 335 or 336. Offered odd years only.

**JOUR 445 DIRECTED MEDIA WRITING** 1-3  
The refining of writing skills through a program adapted to the student's professional interest. Prerequisites: JOUR 245 and permission of instructor.

**JOUR 451 PUBLICATION PRODUCTION** 4  
Instruction and practice in copy editing, headline writing, and cutline writing; publication design and print production. Each student will plan a project consisting of planning a new publication, with prospectus and dummy copy. Permission of instructor required.

**ENGL 215 FILM LITERATURE** 4  
See the English section of this bulletin.

**ENGL 325 ADVANCED TECHNICAL WRITING** 3  
See the English section of this bulletin.

|                                                                                                          |   |
|----------------------------------------------------------------------------------------------------------|---|
| ENGL 329 WRITING THEORY<br>See the English section of this bulletin.                                     | 3 |
| ENGL 335 NARRATIVE WRITING<br>See the English section of this bulletin.                                  | 3 |
| MKTG 381 MARKETING<br>See the Business section of this bulletin.                                         | 4 |
| MKTG 383 ADVERTISING AND SALES PROMOTION<br>See the Business section of this bulletin.                   | 4 |
| MKTG 481 PUBLIC RELATIONS<br>See the Business section of this bulletin.                                  | 4 |
| SOCI 451 RESEARCH METHODS<br>Same as MKTG 451; PLSC 451. See course description under those departments. | 4 |
| OFAD 362 BUSINESS COMMUNICATIONS<br>See the Office Administration section of this bulletin.              | 4 |

### SPEECH COMMUNICATION (SPCH)

|                                                                                                                                                                                                                                                                                                                                                 |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| SPCH 101 FUNDAMENTALS OF SPEECH COMMUNICATION<br>Introduction to the procedure of public speaking. Emphasis on acquiring ease, a conversational attitude, and reasonable facility in organizing and delivering content relevant to the audience.                                                                                                | 4   |
| SPCH 107 VOICE AND ARTICULATION<br>Study of and practice in improving the speaking voice. Emphasizes the structure and function of the speech mechanism, quality and effectiveness of voice; stresses developing clear enunciation and articulation. As a guide to correct pronunciation, the International Phonetic Alphabet is also included. | 4   |
| SPCH 207 SMALL GROUP COMMUNICATION<br>Study of the nature of group and interpersonal processes; includes leadership and participation in group discussion. Will not be offered 1991-92.                                                                                                                                                         | 3   |
| SPCH 211 ORAL INTERPRETATION<br>Study of the various types of interpretative literature with a view toward its understanding for the purpose of public presentation. Includes reading from the printed page with fluency and effectiveness, and Readers' Theatre script preparation and presentation.                                           | 4   |
| SPCH 252 PLAY PRODUCTION<br>Analysis, rehearsal, and performance of a play chosen by the instructor. May be taken only by permission of the instructor.                                                                                                                                                                                         | 1-4 |
| SPCH 310 INTERPERSONAL AND NONVERBAL COMMUNICATION<br>Examination of both the process and the messages, verbal and non-verbal, that characterize interpersonal communication; employs readings, discussion, and strategies useful in understanding and improving one's interpersonal interactions.                                              | 3   |
| SPCH 341 ARGUMENTATION<br>Examination of informal logic to develop critical thinking; includes study of evidence, reasoning, and fallacies; application of evidence and logical forms by analyzing current rhetoric and debating contemporary issues. Offered odd years only.                                                                   | 4   |
| SPCH 363 HISTORY OF DRAMATIC ARTS<br>Study of the history and development of the theater from the Greek to the twentieth century. Offered even years only. Will not be offered 1991-92.                                                                                                                                                         | 4   |

## COMMUNICATIONS

**SPCH 365 PLAY DIRECTION** 3  
Fundamentals of play direction; each student produces and directs a one-act play or one act from a longer play for public performance. Permission of instructor required. Offered odd years only.

**SPCH 381, 382, 383 BIBLICAL PREACHING** 2, 2, 2  
Preparation and delivery of Biblical sermons for worship, evangelism, and special worship occasions. Laboratories and Sabbath speaking appointments included. Prerequisite: SPCH 101.

**SPCH 395 METHODS OF TEACHING SPEECH COMMUNICATION** 3  
Study of the basic principles and practices of teaching speech on the junior high and secondary levels. Special attention given to contemporary methods of presentation in classrooms and therapy sessions; includes observations, demonstration, and class participation.

**SPCH 401 INTRODUCTION TO GENERAL SEMANTICS** 2  
Study of the use of language to influence human behavior, to solve problems, and to resolve conflicts.

**SPCH 443 PERSUASIVE SPEAKING** 4  
Study of motivation in human behavior as applied by the public communicator in the process of persuasion; analysis of persuasive speeches for their emotional, ethical, and logical value; practice in composing and delivering speeches to influence choice. Prerequisite: SPCH 101.

**SPCH 453 THE RHETORIC OF WESTERN THOUGHT** 3  
Study of the principles of rhetoric proposed by Aristotle, Quintillian, Cicero, and others; the relationship of the principles of rhetoric to contemporary speechmaking. Prerequisite: SPCH 101. Will not be offered 1991-92.

**SPCH 496 SEMINAR IN SPEECH COMMUNICATION** 2  
Integrating course required of all speech communication majors in the senior year. Includes a review of literature and research methods in speech communication, experience in writing critical reviews and investigating issues in areas of special interest to class members, and oral presentation of reports.

**ENGL 484 HISTORY OF THE ENGLISH LANGUAGE** 3  
See the English section of this bulletin.

**ENGL 485 LINGUISTICS** 3  
See the English section of this bulletin.

## SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY (SPPA)

**SPPA 100 INDIVIDUALIZED SPEECH INSTRUCTION** 1- 3  
Appraisals and remedial service for speech and hearing problems. By permission of the instructor.

**SPPA 210 SURVEY OF SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY** 3  
Survey of communication disorders with major emphasis given to the etiologies, symptomatologies, and the recognition of speech, language, voice, and hearing disorders.

**SPPA 250 SIGN LANGUAGE FOR THE DEAF** 3  
Introduction to the basic signs used in communicating with the hearing impaired; includes group practice in signing letters, words, sentences, and songs.

**SPPA 299 NORMAL LANGUAGE DEVELOPMENT** 2  
Study of the normal development of speech and language in children and methods of facilitation. Does not apply to a major in speech-language pathology and audiology. Will not be offered 1991-92.

# COMPUTER SCIENCE

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Michael Bell, Chair; Larry Aamodt, John Haney, James Klein, Gary Rittenbach.

Computer science is the study of the representation, storage, and manipulation of information. The Department of Computer Science prepares its students for both graduate study and careers in computer science.

The department offers programs leading to the Bachelor of Arts, Bachelor of Science and Associate of Science degrees. The Bachelor of Science degree will prepare students for careers or graduate study in computer science. The Bachelor of Arts degree will prepare students for careers in fields applying computer information and data processing. The curriculum follows closely the guidelines of the Association for Computing Machinery and the Institute of Electrical and Electronics Engineers.

For entrance, 20 semester periods of secondary mathematics chosen from algebra, plane and solid geometry, and trigonometry are required.

## MAJOR IN COMPUTER SCIENCE (Bachelor of Arts)

A student majoring in computer science must complete 48 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general and subject (Computer Science) sections.

### Major Requirements:

|          |                                         |    |
|----------|-----------------------------------------|----|
| CPTR 141 | Introduction to Programming (Pascal)    | 4  |
| CPTR 142 | Data Structures                         | 4  |
| CPTR 211 | Directed Study in Programming Languages | 2  |
| CPTR 215 | Assembly Language Programming           | 3  |
| CPTR 224 | Scientific Computer Applications        | 4  |
| CPTR 341 | Programming Languages                   | 4  |
| CPTR 343 | Advanced Data Structures                | 4  |
| CPTR 441 | Advanced Computer Projects              | 4  |
| CPTR 454 | Design and Analysis of Algorithms       | 4  |
|          | Electives (6 must be upper division)    | 15 |
|          |                                         | 48 |

Electives must be chosen in consultation with and approved by the department chair. No more than 13 credit hours of programming languages courses may apply toward a bachelor of arts degree. (CPTR 215 is included in these 13 credit hours, but CPTR 341 is not.)

### Cognates:

|               |                                      |   |   |
|---------------|--------------------------------------|---|---|
| BIOL 250      | Biostatistics                        | } | 4 |
| or            |                                      |   |   |
| GBUS 263      | Business Statistics                  |   |   |
| or            |                                      |   |   |
| MATH 315      | Probability and Statistics           |   |   |
| MATH 181, 281 | Analytic Geometry and Calculus I, II |   | 8 |
| MATH 250      | Discrete Mathematics                 |   | 4 |
| MATH 289      | Linear Algebra and Its Applications  |   | 3 |

## COMPUTER SCIENCE

|          |                                    |     |
|----------|------------------------------------|-----|
| OFAD 111 | Basic Keyboarding (or proficiency) | 0-2 |
| ELCT 241 | Fundamentals of Electronics        |     |
| or       |                                    |     |
| ENGR 228 | Circuit Analysis                   | 4-5 |

### MAJOR IN COMPUTER SCIENCE (Bachelor of Science)

A student majoring in computer science must complete 61 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general and subject (Computer Science) sections.

#### Major Requirements:

|          |                                         |    |
|----------|-----------------------------------------|----|
| CPTR 141 | Introduction to Programming (Pascal)    | 4  |
| CPTR 142 | Data Structures                         | 4  |
| CPTR 211 | Directed Study in Programming Languages | 2  |
| CPTR 215 | Assembly Language Programming           | 3  |
| CPTR 224 | Scientific Computer Applications        |    |
| or       |                                         |    |
| CPTR 345 | Theory of Computation                   | 4  |
| CPTR 331 | Computers in the Laboratory             | 3  |
| CPTR 341 | Programming Languages                   | 4  |
| CPTR 343 | Advanced Data Structures                | 4  |
| CPTR 350 | Computer Architecture                   | 3  |
| CPTR 351 | Memory and I/O Systems                  | 3  |
| CPTR 352 | Operating System Design                 | 3  |
| CPTR 374 | Simulation and Modeling                 | 3  |
| CPTR 441 | Advanced Computer Projects              | 4  |
| CPTR 454 | Design and Analysis of Algorithms       | 4  |
| ENGR 354 | Digital Logic Circuits                  | 3  |
|          | Electives                               | 10 |
|          |                                         | 61 |

No more than 16 credit hours of programming languages courses may apply toward a bachelor of science degree. (CPTR 215 is included in these 16 credit hours, but CPTR 341 is not.)

#### Cognates:

|                   |                                          |     |
|-------------------|------------------------------------------|-----|
| ELCT 241          | Fundamentals of Electronics              |     |
| or                |                                          |     |
| ENGR 228          | Circuit Analysis                         | 4-5 |
| MATH 181, 281-283 | Analytical Geometry and<br>Calculus I-IV | 16  |
| MATH 250          | Discrete Mathematics                     | 4   |
| MATH 289          | Linear Algebra and Its Applications      | 3   |
| MATH 315          | Probability and Statistics               | 4   |
| MATH 341          | Numerical Analysis                       | 4   |
| OFAD 111          | Basic Keyboarding (or proficiency)       | 0-2 |
| PHYS 251, 252     | Principles of Physics                    | 6   |
| PHYS 254, 255     | Principles of Physics Laboratory         | 2   |

**COMPUTER PROGRAMMING (Associate of Science)**

A student specializing in computer programming must complete the following quarter hours, the required cognates, the general studies program, and all associate degree requirements as outlined in this bulletin.

**Area Requirements:**

|          |                                         |    |
|----------|-----------------------------------------|----|
| CPTR 105 | Personal Computing                      | 3  |
| CPTR 141 | Introduction to Programming (Pascal)    | 4  |
| CPTR 142 | Data Structures                         | 4  |
| CPTR 211 | Directed Study in Programming Languages | 2  |
| CPTR 215 | Assembly Language Programming           | 3  |
| CPTR 224 | Scientific Computer Applications        | 4  |
| CPTR 241 | Computer Projects                       | 4  |
|          | Electives                               | 29 |

Electives must be chosen in consultation with and approved by the department chair and will usually have one of the following prefixes: ACCT, CPTR, FINA, GBUS, MATH, MGMT, or MIS.

53

**Cognates:**

|               |                                     |     |
|---------------|-------------------------------------|-----|
| BIOL 250      | Biostatistics                       | 4   |
| or            |                                     |     |
| GBUS 263      | Business Statistics                 | 4   |
| or            |                                     |     |
| MATH 106      | Applied Statistics                  | 5.8 |
| MATH 117      | Precalculus                         |     |
| or            |                                     |     |
| MATH 121, 122 | Fundamentals of Mathematics I, II   |     |
| MATH 250      | Discrete Mathematics                | 4   |
| MATH 289      | Linear Algebra and Its Applications | 3   |
| OFAD 111      | Basic Keyboarding (or proficiency)  | 0-2 |

**MINOR IN COMPUTER SCIENCE**

A student minoring in computer science must complete 29 quarter hours:

|          |                                         |   |
|----------|-----------------------------------------|---|
| CPTR 141 | Introduction to Programming (Pascal)    | 4 |
| CPTR 142 | Data Structures                         | 4 |
| CPTR 211 | Directed Study in Programming Languages | 2 |
| CPTR 215 | Assembly Language Programming           | 3 |
| CPTR 224 | Scientific Computer Applications        | 4 |
| CPTR 341 | Programming Languages                   | 4 |
|          | Electives                               | 8 |

Electives must be chosen in consultation with and approved by the department chair.

29

**Cognates:**

|          |                                      |   |
|----------|--------------------------------------|---|
| MATH 181 | Analytical Geometry and Calculus I   | 4 |
| MATH 289 | Linear Algebra and Its Applications  | 3 |
| MATH 250 | Discrete Mathematics (or equivalent) | 4 |

## COMPUTER SCIENCE

### COMPUTER SCIENCE (CPTR)

#### CPTR 105 PERSONAL COMPUTING

3

An introduction to personal computing and MS-DOS using IBM PC compatible computers. Lectures are offered in a lab setting with each student working with a computer. Topics include IBM PC hardware basics. MS-DOS fundamentals, word processing, data base systems, and electronic spreadsheets. Will not apply toward a bachelor's degree in computer science. Enrollment limited by available facilities.

#### CPTR 141 INTRODUCTION TO PROGRAMMING (Pascal)

4

Introduction to programming using the Pascal language. Intended as the first course for all students wanting to learn how to program. Covers both modern programming principles and Pascal specifics: problem analysis and decomposition, program design, procedural abstraction, testing and debugging, documentation, Pascal syntax and Pascal semantics.

#### CPTR 142 DATA STRUCTURES

4

Continuation of CPTR 141. Topics include linear lists, strings, arrays, trees, and other data structures used in computer programming. Also introduces sorting and search. Prerequisite: CPTR 141.

#### CPTR 211 DIRECTED STUDY IN PROGRAMMING LANGUAGES

1-2; 5

The directed study of a programming language and its applications. Several small programs will be required. A project will be required for those registering for two credits. The selected language must be chosen in consultation with the instructor. Some possible choices are ADA, APL, C, FORTRAN, LISP, Modula-2, PROLOG, SNOBOL, and SQL. May be taken up to three times with different languages for a maximum of five credits. Prerequisite: CPTR 141.

#### CPTR 215 ASSEMBLY LANGUAGE PROGRAMMING

3

Introduction to computer architecture, machine language, and assembly language using microprocessors. Laboratory work required. Prerequisite: CPTR 141.

*OFAD 111 is prerequisite to all courses in computer science numbered above 220.*

#### CPTR 224 SCIENTIFIC COMPUTER APPLICATIONS

4

Surveys of problem-solving techniques applicable to scientific investigation, including symbolic methods, trial and error, simulation, statistics, and graphics. Prerequisite: CPTR 141. Will not be offered 1991-92.

#### CPTR 241 COMPUTER PROJECTS

2; 4

Experience in programming a major software project. Usually a single project will be chosen in consultation with the instructor, or several students may work on a large project using team programming techniques. May be repeated once. Candidates for a bachelor's degree should take CPTR 441. Prerequisite: CPTR 136 or 142.

#### CPTR 245 INTERMEDIATE COBOL

4

Intermediate and advanced features of the COBOL language. Emphasis is on structured programming techniques, advanced file processing, programming style, and job control languages. Prerequisite: CPTR 136.

#### CPTR 255 COMPUTER GRAPHICS

2

Introduction to the production of graphical representations of 2- and 3-dimensional objects using the computer. Theory and application of matrix transform methods to manipulate 2- and 3-dimensional data structures. Graphical operations include scaling, translation, rotation, and reflection; also includes orthographic, axonometric, perspective, and stereographic projections. Surveys applications of computer plotting software for the production of graphs. Prerequisites: CPTR 141; MATH 117 or equivalent.

#### CPTR 331 COMPUTERS IN THE LABORATORY

3

Study of the application of computers in the control of laboratory equipment and the acquisition of data. Considers the choice of hardware for specific applications. Prerequisites: CPTR 141; CPTR 215; ELCT 241 or ENGR 325.



*Administration building 1917*

**CPTR 341 PROGRAMMING LANGUAGES**

4

Analysis of programming languages, including techniques of formal specification and analysis such as Backus-Naur form and syntax diagrams, lexical analysis and parsing. Analysis of several specific languages including both compiled and interpreted languages. Study of run-time behavior of program features. Prerequisite: CPTR 142; Recommended prerequisite: CPTR 211.

**CPTR 343 ADVANCED DATA STRUCTURES**

4

Advanced coverage of computer data structures. Topics include: efficiency notations, advanced sorting, multiply linked lists, generalized trees, binary search trees, balanced trees, B-trees, priority queues, and hashing. Prerequisite: CPTR 341.

**CPTR 345 THEORY OF COMPUTATION**

4

Study of the basic theoretical principles of computer science. Areas covered include automata and formal languages, computability by Turing machines and recursive functions, uncomputability and computational complexity. Emphasis on practical implications. Prerequisite: MATH 250.

## COMPUTER SCIENCE

**CPTR 350 COMPUTER ARCHITECTURE** 3  
Study of the organization and architecture of computer systems with emphasis on the classical von Neumann architecture. Topics include instruction processing, addressing, interrupt structures, memory management, microprogramming, procedure call implementations, and multiprocessing. Prerequisites: CPTR 215, ENGR 354.

**CPTR 351 MEMORY AND I/O SYSTEMS** 3  
Study of interfacing techniques used in computer systems. Topics include random, semirandom, sequential, and direct-access methods; caching; synchronous and asynchronous transfer; and characteristics of I/O devices. Lab work is required. Prerequisites: CPTR 142; CPTR 215; CPTR 350.

**CPTR 352 OPERATING SYSTEM DESIGN** 3  
Introduction to the design and operation of computer operating systems. Topics include multiprogramming, multiprocessing, concurrency, mutual exclusion, process models, synchronization, I/O handling, and user interfaces. Prerequisite: CPTR 351.

**CPTR 374 SIMULATION AND MODELING** 3  
Study of contemporary methods of simulation and modeling of deterministic and probabilistic systems using conventional programming languages as well as specialized simulation languages. Scientific and business applications are included. Prerequisites: CPTR 141; MATH 181 and MATH 289 or equivalent; BIOL 350 or GBUS 263 or MATH 315 or equivalent.

**CPTR 441 ADVANCED COMPUTER PROJECTS** 2; 4  
Experience on a practical, large-scale programming project. Usually a single project will be chosen in consultation with the instructor, or several students may work together on a larger project using team programming methods. May be repeated once. Prerequisite: CPTR 341.

**CPTR 454 DESIGN AND ANALYSIS OF ALGORITHMS** 4  
Application of techniques using asymptotic notations, unit costs, and recurrence relations to the analysis of algorithms. Covers basic design strategies by studying the various kinds of classical algorithms. Proof-of-correctness methods are presented. Examples of NP-complete and NP-hard problems are discussed. Prerequisites: CPTR 142 and MATH 250.

**CPTR 464 COMPILER DESIGN** 4  
Study of the techniques of translating conventional programming language source into executable machine codes. Topics include lexical analysis, syntactic analysis and parsing, static and runtime storage management, and code generation. Prerequisite: CPTR 343. Will not be offered 1991-92.

**CPTR 494 COOPERATIVE EDUCATION** 0-2  
Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in an off-campus setting. Prerequisites: CPTR 142, CDEV 210 or permission of the Cooperative Education Director and approval of major advisor one quarter in advance of registration.

**CPTR 495 COLLOQUIUM** 0  
Presentation and discussion of current topics of interest within the computer science profession.

## MANAGEMENT INFORMATION SYSTEMS (MIS)

See the Business section of this bulletin.

**MIS 285 COMPUTER PRINCIPLES** 2

**MIS 301 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS (MIS)** 3

**MIS 315 INTRODUCTION TO INFORMATION SYSTEMS ANALYSIS** 4

**MIS 415 INTERMEDIATE INFORMATION SYSTEMS ANALYSIS** 4

**MIS 440 DATABASE AND DATA MANAGEMENT ISSUES** 4

**MIS 470 MIS ADMINISTRATION** 4

**MIS 490 MIS PROJECTS** 4

**MIS 494 COOPERATIVE EDUCATION/INTERNSHIP** 0-4

## EDUCATION AND PSYCHOLOGY

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Merle Greenway, Chair; Austin Archer, Cleona Bazzi, Gerry Colvin, Ralph Coupland, Dawn Mollenkopf, Steve Pawluk, Gail Rittenbach, Verlie Ward.

The department offers programs leading to a Bachelor of Science degree with a major in elementary education or psychology. Minors are available in either education, early childhood education, special education, or psychology, and preparation is provided for state and denominational certification in elementary or secondary teaching. With careful planning, a bachelor's degree and the first teaching certificate may be earned in four years of study.

For a description of programs leading to a Master's degree in education or counseling and guidance, see the *Graduate Bulletin*.

### MAJOR IN ELEMENTARY EDUCATION (Bachelor of Science)

To be admitted into the elementary education program, a student must have received an acceptable score on the Test for Entrance into Teacher Education Program (TETEP), the Scholastic Aptitude Test (SAT), or the American College Test (ACT).

A student majoring in elementary education must complete 58 quarter hours in the major, the required cognates, as well as an approved second major or two approved minors. A minimum grade point average of not less than 2.50 is required in all courses that apply to these requirements. Any courses graded lower than a C- cannot apply to these requirements. Senior students are required to take the Graduate Record Examination in both general and subject (Education) sections.

#### Major Requirements:

##### Phase I

Phase I must be completed with a minimum grade-point average of 2.50 before a student may proceed to Phase II. Students may request permission to begin Phase II during the last quarter of Phase I.

|          |                                                |   |
|----------|------------------------------------------------|---|
| EDUC 110 | Principles and Concepts of Christian Education | 2 |
| EDUC 210 | Foundations of Education                       | 3 |
| EDUC 227 | Orientation to Elementary Teaching             | 1 |
| EDUC 247 | Elementary School Exploratory                  | 1 |
| PSYC 130 | General Psychology                             | 4 |
| PSYC 215 | Psychology of Childhood and Adolescence        | 4 |
| PSYC 220 | Educational Psychology                         | 3 |

##### Phase II

Formal acceptance into Phase II of the elementary education major is required before registering for the following courses. A grade-point average of not less than 2.50 in the major and minor areas is required. A minimum grade-point average of 2.50 in College Writing is also required.

|          |                                                         |   |
|----------|---------------------------------------------------------|---|
| EDUC 361 | Elementary Curriculum and Instruction:<br>Language Arts | 3 |
| EDUC 362 | Elementary Curriculum and Instruction:<br>Reading       | 4 |

## EDUCATION AND PSYCHOLOGY

|                                                                                                             |                                                          |    |
|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|----|
| EDUC 373                                                                                                    | Elementary Curriculum and Instruction:<br>Mathematics    | 4  |
| EDUC 375                                                                                                    | Classroom Management                                     | 2  |
| EDUC 382                                                                                                    | Elementary Curriculum and Instruction:<br>Social Studies | 2  |
| EDUC 383                                                                                                    | Elementary Curriculum and Instruction:<br>Science        | 2  |
| EDUC 390                                                                                                    | Educational Evaluation                                   | 3  |
| EDUC 478                                                                                                    | Elementary Microteaching                                 | 3  |
| EDUC 480                                                                                                    | Student Teaching in the Elementary School                | 14 |
| SPED 310                                                                                                    | Foundations of Special Education                         | 3  |
| Students seeking denominational certification should refer to that section<br>under notes on certification. |                                                          | 58 |

### Cognates:

|          |                                                |   |
|----------|------------------------------------------------|---|
| ART 301  | Art in the Elementary School                   | 3 |
| HLSC 395 | Methods of School Health Instruction           | 3 |
| MATH 115 | Elementary Mathematics                         | 4 |
| MUED 394 | Music in the Elementary School                 | 3 |
| PETH 473 | Physical Education in the Elementary<br>School | 3 |

### Approved Primary and Supporting Endorsements

Elementary education majors will choose a second major or two minors from the following lists (including courses required for endorsement):

#### Majors

|                    |                      |
|--------------------|----------------------|
| Biology            | Music Education      |
| Business Education | Physical Education   |
| Chemistry          | Physics              |
| English            | Psychology           |
| French             | Sociology            |
| German             | Spanish              |
| Health             | Speech               |
| History            | Technology Education |
| Mathematics        |                      |

#### Minors

|                            |                      |
|----------------------------|----------------------|
| Art                        | Physical Education   |
| Biology                    | Physics              |
| Chemistry                  | Psychology           |
| *Early Childhood Education | Religion             |
| English                    | Sociology            |
| French                     | Spanish              |
| German                     | *Special Education   |
| Health                     | Speech               |
| History                    | Technology Education |
| Mathematics                |                      |

\*Early Childhood Education or Special Education may be chosen—not both.

**PREPARATION FOR SECONDARY TEACHING**

The secondary certification program requires completion of an approved primary endorsement (major) and professional courses as specified. To be recommended for certification, candidates must maintain a grade-point average of not less than 2.50 in professional education/psychology coursework and in all areas of endorsement. No grade lower than C- will apply.

**Phase I**

Phase I must be completed with a minimum grade-point average of 2.50 before a student may proceed to Phase II. Students may request permission to begin Phase II during the last quarter of Phase I.

|          |                                                |   |
|----------|------------------------------------------------|---|
| EDUC 110 | Principles and Concepts of Christian Education | 2 |
| EDUC 210 | Foundations of Education                       | 3 |
| EDUC 267 | Secondary Tutoring                             | 1 |
| PSYC 130 | General Psychology                             | 4 |
| PSYC 215 | Psychology of Childhood and Adolescence        | 4 |
| PSYC 220 | Educational Psychology                         | 3 |

**Phase II**

Formal acceptance into the teacher education program is required before registering for Phase II courses. A grade-point average of not less than 2.50 is required in professional education/psychology coursework and in all endorsement areas.

|           |                                                          |          |
|-----------|----------------------------------------------------------|----------|
| +EDUC 390 | Educational Evaluation                                   | 3        |
| +EDUC 392 | General Secondary Methods                                | 2        |
| *395      | Methods course in major or minor academic field of study | 3        |
| EDUC 475  | Teaching Reading Skills in Content Areas                 | 3        |
| EDUC 479  | Secondary Microteaching                                  | 3        |
| EDUC 481  | Student Teaching in the Secondary School                 | 14       |
| SPED 310  | Foundations of Special Education                         | 3        |
|           |                                                          | <hr/> 48 |

Not required but highly recommended:

|          |                                           |   |
|----------|-------------------------------------------|---|
| PSYC 360 | Small Group Procedures                    | } |
| or       | Small Group Communication                 |   |
| SPCH 207 | Interpersonal and Nonverbal Communication | 3 |
| SPCH 310 |                                           | 3 |

+These courses should precede departmental methods courses.

\*Secondary methods courses are listed under respective departments as course number 395 with the appropriate prefix. Consult the appropriate department for details.

**Approved primary and supporting endorsements**

Endorsements require a methods class appropriate for secondary teaching (4-12) and specified courses. See an adviser in the department offering the endorsement or in the Department of Education and Psychology.

## EDUCATION AND PSYCHOLOGY

### Majors (including courses required for endorsement)

|                    |                      |
|--------------------|----------------------|
| Biology            | Mathematics          |
| Business Education | Physical Education   |
| Chemistry          | Physics              |
| English            | Psychology           |
| French             | Sociology            |
| German             | Spanish              |
| Health             | Speech               |
| History            | Technology Education |
| Music Education    |                      |

### Minors (including courses required for endorsement)

|           |                      |
|-----------|----------------------|
| Art       | Mathematics          |
| Biology   | Physical Education   |
| Chemistry | Physics              |
| English   | Psychology           |
| French    | Sociology            |
| German    | Spanish              |
| Health    | Special Education    |
| History   | Technology Education |

Students seeking denominational certification should refer to that section.

Religious studies (Bible) is not an approved Washington state endorsement. However, a religion minor, plus a methods course in religion, remains essential for those desiring a denominational endorsement in Bible.

## MINOR IN EARLY CHILDHOOD EDUCATION

A student minoring in early childhood education must complete 27 quarter hours.

|          |                                              |       |
|----------|----------------------------------------------|-------|
| CHLD 310 | Foundations of Early Childhood Education     | 3     |
| CHLD 374 | Professional Core I: Creative Activities     | 4     |
| CHLD 376 | Professional Core II: The Physical World     | 4     |
| CHLD 430 | Issues & Trends in Early Childhood Education | 3     |
| CHLD 438 | Intervention in the Preschool Setting        | 3     |
| CHLD 480 | Field Work in Early Childhood Education      | 4     |
|          | Electives                                    | 6     |
|          |                                              | <hr/> |
|          |                                              | 27    |

Approval of early childhood education adviser required.

Approved electives include:

|          |                                             |   |
|----------|---------------------------------------------|---|
| CHLD 378 | Infant & Toddler Care                       | 2 |
| CHLD 455 | Language Development in Young Children      | 2 |
| EDUC 492 | Education of the Gifted                     | 3 |
| ENGL 374 | Literature for Children                     | 3 |
| PETH 324 | Adapted Physical Education & Recreation     | 3 |
| PETH 473 | Physical Education in the Elementary School | 3 |
| SOWK 464 | Social Work with Children                   | 3 |
| SPCH 310 | Interpersonal & Nonverbal Communication     | 3 |
| SPED 315 | Teaching the Preschool Exceptional Child    | 3 |
| SPPA 250 | Sign Language for the Deaf                  | 3 |
| TECH 428 | Handwork Activities                         | 3 |

**MINOR IN EDUCATION**

A student minoring in education must complete 30 quarter hours in education-prefixed courses.

Electives (3 must be upper division) 30

Approval of education adviser required.

**MINOR IN SPECIAL EDUCATION**

A student minoring in special education must complete 27 quarter hours.

|          |                                                          |          |
|----------|----------------------------------------------------------|----------|
| SPED 310 | Foundations of Special Education                         | 3        |
| SPED 373 | Management of Exceptional Individuals                    | 3        |
| SPED 433 | Assessment of Exceptional Individuals                    | 4        |
| SPED 437 | Instruction of Exceptional Individuals                   | 4        |
| SPED 438 | Counseling Exceptional Individuals and<br>Their Families | 3        |
| SPED 480 | Field Work in Special Education                          | 4        |
|          | Electives                                                | 6        |
|          |                                                          | <hr/> 27 |

Approval of special education adviser required.

Approved electives include:

|           |                                           |   |
|-----------|-------------------------------------------|---|
| CHLD 374  | Professional Core I: Creative Activities  | 4 |
| CHLD 376  | Professional Core II: The Physical World  | 4 |
| EDUC 492  | Education of the Gifted                   | 3 |
| EDUC 495  | Elementary School Guidance                | 3 |
| ENGL 374  | Literature for Children                   | 3 |
| PETH 324  | Adapted Physical Education and Recreation | 3 |
| PSYC 360  | Small Group Procedures                    | 3 |
| PSYC 464  | Counseling Relationships                  | 3 |
| SOWK 464  | Social Work with Children                 | 3 |
| SPCH 207  | Small Group Communications                | 3 |
| SPCH 310  | Interpersonal and Nonverbal Communication | 3 |
| *SPED 315 | Teaching the Preschool Exceptional Child  | 3 |
| *SPED 430 | Issues and Trends in Special Education    | 3 |
| SPPA 210  | Survey of Speech-Language Pathology       | 3 |
| SPPA 250  | Sign Language for the Deaf                | 3 |
| TECH 428  | Handwork Activities                       | 3 |

\*Required for Washington State endorsement

**NOTES ON CERTIFICATION****Denominational Certification**

For elementary and secondary certification candidates seeking denominational certification, the following course work is required in addition to the courses required for Washington State certification:

EDUC 381 Elementary Curriculum and Instruction: 2  
Religion (elementary certification only).

## EDUCATION AND PSYCHOLOGY

One course chosen from the following:

|          |                                      |   |
|----------|--------------------------------------|---|
| HLSC 110 | Wellness for Living                  | 3 |
| HLSC 353 | Principles of Health                 | 3 |
| HLSC 395 | Methods of School Health Instruction | 3 |

Eighteen hours of religion courses, including the following:

|          |                                   |   |
|----------|-----------------------------------|---|
| RELB 457 | History of Adventism              | 2 |
| RELT 202 | Fundamentals of Christian Beliefs | 4 |
| RELT 317 | Inspiration and Revelation        | 4 |

### Washington State Certification

The department attempts to provide current information in this bulletin on certification requirements. Because of frequent changes in those requirements, however, the candidate must consult with the department's certification officer periodically for updated information that might affect certification status.

Course credits more than ten years old that are used to meet initial certification standards will be reviewed by the department granting the credit to determine acceptability.

To be accepted into either the elementary or secondary teacher certification sequence, a student must have received an acceptable score on the Test for Entrance into Teacher Education Program or on a state-approved alternate examination.

United States citizens satisfactorily completing the Bachelor of Science degree with a major in elementary education will have completed the course requirements for a Washington state initial teaching credential.

### MAJOR IN PSYCHOLOGY (Bachelor of Science)

The psychology curriculum is sufficiently flexible to meet the needs of students preparing for a wide range of careers in the behavioral sciences or in related professions that involve working with people. Primary emphasis is placed on the applied dynamics of human behavior and relationships rather than on animal or laboratory psychology.

The major requirements and cognate courses are intended to provide a scientific base on which a balanced program of electives may be built in accordance with the individual needs and interests of each student.

Although specific requirements for admission to graduate programs in most universities will be met by the general major, the student should realize that his graduate work may be impeded or prolonged in certain areas of psychology if special preparation is not obtained at the undergraduate level. For this reason, students who plan to continue academic work in psychology beyond the bachelor's degree are urged to consult with their advisers very early in their college careers.

A student majoring in psychology must complete 50 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination in both general and subject (Psychology) sections.

#### Major Requirements:

|          |                                         |   |
|----------|-----------------------------------------|---|
| PSYC 130 | General Psychology                      | 4 |
| PSYC 215 | Psychology of Childhood and Adolescence | 4 |

## EDUCATION AND PSYCHOLOGY

|          |                                                                                                                                                                           |    |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| PSYC 230 | Systems and Theories in Psychology                                                                                                                                        | 4  |
| PSYC 350 | Elementary Statistics                                                                                                                                                     | 4  |
| PSYC 375 | Experimental Problems                                                                                                                                                     | 3  |
| PSYC 444 | Social Psychology                                                                                                                                                         | 3  |
| PSYC 446 | Psychology of Personality                                                                                                                                                 | 3  |
| PSYC 495 | Analysis of Psychological Experiments                                                                                                                                     | 2  |
|          | Electives (15 must be upper division)                                                                                                                                     | 23 |
|          | Electives must be chosen in consultation with and approved by the department chair. Maximum of 8 credits may be selected from the following: BIOL 374, 392, and BIOL 464. | 50 |

### Cognates:

A minimum of 20 quarter hours must be completed. An entire course sequence must be taken in at least one area. Courses should be chosen from the following with approval of department adviser (advanced courses may be substituted):

|                    |                                                            |    |
|--------------------|------------------------------------------------------------|----|
| BIOL 101, 102, 103 | General Biology                                            | 12 |
| BIOL 201, 202      | Anatomy and Physiology                                     | 8  |
| BIOL 393           | Genetics                                                   | 4  |
| CHEM 101, 102, 103 | Introductory Chemistry                                     | 11 |
| CPTR 105           | Personal Computing<br>(or a more advanced computer course) | 3  |
| MATH 121, 122      | Fundamentals of Mathematics I, II                          | 8  |
| PHYS 211, 212, 213 | General Physics                                            | 9  |
| PHYS 214, 215, 216 | General Physics Laboratory                                 | 3  |

### MINOR IN PSYCHOLOGY

A student minoring in psychology must complete 28 quarter hours:

|          |                                         |    |
|----------|-----------------------------------------|----|
| PSYC 130 | General Psychology                      | 4  |
| PSYC 215 | Psychology of Childhood and Adolescence | 4  |
| PSYC 230 | Systems and Theories in Psychology      | 4  |
| PSYC 444 | Social Psychology                       | 3  |
|          | Electives (3 must be upper division)    | 13 |

Approval of psychology adviser required.

28

### EARLY CHILDHOOD (CHLD)

#### CHLD 310 FOUNDATIONS OF EARLY CHILDHOOD EDUCATION 3

In-depth study of the historical, philosophical, and psychological bases of early childhood education. Prerequisite: PSYC 215 or permission of instructor.

#### CHLD 374 PROFESSIONAL CORE I: CREATIVE ACTIVITIES 4

Materials and teaching strategies involving art, music, poetry, storytelling, and dramatic play in early childhood education. Prerequisite: CHLD 310.

#### CHLD 376 PROFESSIONAL CORE II: THE PHYSICAL WORLD 4

Materials and teaching strategies to acquaint children with the physical world. Includes personal health, nutrition and safety, natural science observation, and simple quantification concepts. Prerequisite: CHLD 310.



*Education department students*

**CHLD 378 INFANT & TODDLER CARE**

2

Group care practices for children from birth to three years of age. Prerequisite: CHLD 310.

**CHLD 430 ISSUES & TRENDS IN EARLY CHILDHOOD EDUCATION**

3

Current literature and legislation pertaining to early childhood education, and models for delivery of these services. Prerequisite: CHLD 310.

**CHLD 438 INTERVENTION IN THE PRESCHOOL SETTING**

3

Analysis of the interaction and development of the child within the school, family, and community; approaches to child rearing, management, and guidance. Prerequisite: CHLD 310.

**CHLD 455 LANGUAGE DEVELOPMENT IN YOUNG CHILDREN**

2

Normal development of speech and language in children, including methods of facilitation. Prerequisite: CHLD 310.

**CHLD 480 FIELD WORK IN EARLY CHILDHOOD EDUCATION**

2;4

A broad spectrum of closely supervised experience in actual field settings. Prerequisites: CHLD 310, and permission of early childhood advisor.

**EDUCATION (EDUC)**

**EDUC 110 PRINCIPLES AND CONCEPTS OF CHRISTIAN EDUCATION**

2

Study of the ideals and principles of Christian education, especially as interpreted by the Seventh-day Adventist Church.

**EDUC 210 FOUNDATIONS OF EDUCATION**

3

Study of social and philosophical foundations underlying the current organization and objectives of American education.

|                                                                                                                                                                                                                                                                                                                          |      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>EDUC 227 ORIENTATION TO ELEMENTARY TEACHING</b>                                                                                                                                                                                                                                                                       | 1    |
| Examination of current educational thought regarding the role of the teacher and the purpose of the school.                                                                                                                                                                                                              |      |
| <b>EDUC 247 ELEMENTARY SCHOOL EXPLORATORY</b>                                                                                                                                                                                                                                                                            | 1    |
| Participation in multigrade classroom situations. Focus is on organization and planning at the beginning of the elementary school year. Preparation and placement for this course occur during a preceding quarter in EDUC 227. Time involved: two weeks. Prerequisite: EDUC 227. (S or NC only)                         |      |
| <b>EDUC 267 SECONDARY TUTORING</b>                                                                                                                                                                                                                                                                                       | 1; 3 |
| Supervised experiences in the secondary school classroom designed to acquaint the tutor with students of the grade level assigned, teacher responsibilities, and classroom routine. (S or NC only)                                                                                                                       |      |
| <b>EDUC 361 ELEMENTARY CURRICULUM AND INSTRUCTION: LANGUAGE ARTS</b>                                                                                                                                                                                                                                                     | 3    |
| Study of the development of language skills. Speaking, thinking, listening, reading, and writing skills are studied. Attention will be given to materials and instructional resources. Involvement in elementary classrooms will be required. Prerequisite: Acceptance into Phase II.                                    |      |
| <b>EDUC 362 ELEMENTARY CURRICULUM AND INSTRUCTION: READING</b>                                                                                                                                                                                                                                                           | 4    |
| Study of current theory relating to the nature of reading and effective instructional procedures and resources. Activities in the elementary school will include administration of Informal Reading Inventories. Prerequisite: Acceptance into Phase II.                                                                 |      |
| <b>EDUC 373 ELEMENTARY CURRICULUM AND INSTRUCTION: MATHEMATICS</b>                                                                                                                                                                                                                                                       | 4    |
| Survey of the content, media, and approaches used in teaching mathematics in the elementary school, including software evaluation for CAI; emphasis on research-based strategies. Prerequisites: Acceptance into Phase II; MATH 115 or 121.                                                                              |      |
| <b>EDUC 375 CLASSROOM MANAGEMENT</b>                                                                                                                                                                                                                                                                                     | 2    |
| Study of discipline strategies and organization and management skills that promote learning within the school. Includes techniques for maintaining open communication with the entire school community. Prerequisite: Acceptance into Phase II.                                                                          |      |
| <b>EDUC 381 ELEMENTARY CURRICULUM AND INSTRUCTION: RELIGION</b>                                                                                                                                                                                                                                                          | 2    |
| Study of materials, strategies, and relationships that provide effective Bible instruction in the elementary school. Prerequisite: Acceptance into Phase II.                                                                                                                                                             |      |
| <b>EDUC 382 ELEMENTARY CURRICULUM AND INSTRUCTION: SOCIAL STUDIES</b>                                                                                                                                                                                                                                                    | 2    |
| Study of strategies for the implementation of the social studies curriculum in the elementary school. Instruction in appropriate uses of resources and materials. Prerequisite: Acceptance into Phase II.                                                                                                                |      |
| <b>EDUC 383 ELEMENTARY CURRICULUM AND INSTRUCTION: SCIENCE</b>                                                                                                                                                                                                                                                           | 2    |
| Study of teaching of science in the elementary school with emphasis on science as a process of inquiry. Prerequisite: Acceptance into Phase II.                                                                                                                                                                          |      |
| <b>EDUC 390 EDUCATIONAL EVALUATION</b>                                                                                                                                                                                                                                                                                   | 3    |
| Introduction to principles and techniques of evaluating classroom activities in elementary and secondary schools.                                                                                                                                                                                                        |      |
| <b>EDUC 392 GENERAL SECONDARY METHODS</b>                                                                                                                                                                                                                                                                                | 2    |
| Study of the role of the secondary teacher in the classroom, school, and community. Topics examined include methods of instruction, planning, ethics, legal aspects, professional growth, educational technology, small group communication, and general principles for success. Prerequisite: Acceptance into Phase II. |      |

## EDUCATION AND PSYCHOLOGY

**EDUC 475 TEACHING READING SKILLS IN CONTENT AREAS** 3  
Introduction to diagnosis, vocabulary, comprehension skills, rate variation, management, and study skills in junior high and secondary reading.

**EDUC 478 ELEMENTARY MICROTEACHING** 3  
Teaching laboratory to prepare elementary teachers in skills necessary to effective teaching. Students present brief demonstration lessons to a small class of children. Self-evaluation is supplemented by evaluation of supervisors, practicing teachers, and peers, along with video recordings. Prerequisites: Admission into Phase II and two methods courses.

**EDUC 479 SECONDARY MICROTEACHING** 3  
Consideration of teaching procedures applicable at any level. Laboratory practice in certain teaching skills following the microteaching model. Class meets one night each week, and each student will participate weekly in an afternoon teaching laboratory. Prerequisites: Admission into Phase II and one methods course in the student's major or minor area of study.

**EDUC 480 STUDENT TEACHING IN THE ELEMENTARY SCHOOL** 14  
Supervised teaching as required for certification. Includes observation of and participation in the classroom teacher's role in the school. Conferences will be conducted for the student teacher by the supervising teacher and college supervisor. Prerequisites: EDUC 361; EDUC 362; EDUC 373; EDUC 478; by permission of the Professional Education Committee. (S or NC only)

**EDUC 481 STUDENT TEACHING IN THE SECONDARY SCHOOL** 14  
Supervised teaching as required for certification. Includes observation of and participation in the classroom teacher's role in the school. Conferences will be conducted for the student teacher by the supervising teacher and college supervisor. Prerequisites: EDUC 479; by permission of the Professional Education Committee. (S or NC only)

**EDUC 492 EDUCATION OF THE GIFTED** 3  
Introduction to the design of learning opportunities for gifted children in the light of their psychological characteristics.

**EDUC 494 COOPERATIVE EDUCATION** 0-3  
Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisites: Approval by department; CDEV 210 or permission of Cooperative Education Director.

## PSYCHOLOGY (PSYC)

PSYC 130 is a prerequisite to all other courses in psychology.

**PSYC 130 GENERAL PSYCHOLOGY** 4  
Survey of the major areas of psychology emphasizing the scientific bases of psychological investigation. Introduction to the fundamental vocabulary, methodologies, established facts, and sound principles of psychology.

**PSYC 215 PSYCHOLOGY OF CHILDHOOD AND ADOLESCENCE** 4  
Study of the development of the individual from infancy through early adulthood, including the physical, psychological, cognitive, social, and moral components.

**PSYC 220 EDUCATIONAL PSYCHOLOGY** 3  
Application of psychological principles to teaching. Includes introduction to principles of motivation and classroom discipline; humanistic, behavioral, and cognitive approaches to instruction; and study of underlying sociological and psychological theories.

**PSYC 230 SYSTEMS AND THEORIES IN PSYCHOLOGY** 4  
Introduction to the historical development of the various systems and theories in psychology with emphasis on learning theory.

## EDUCATION AND PSYCHOLOGY

|                                                                                                                                                                                                                                                                                                              |             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>PSYC 360 SMALL GROUP PROCEDURES</b>                                                                                                                                                                                                                                                                       | <b>3</b>    |
| Study of small group process through simulations, confrontation techniques, and role playing. Especially useful for teachers, ministers, nurses, and social workers.                                                                                                                                         |             |
| <b>PSYC 375 EXPERIMENTAL PROBLEMS</b>                                                                                                                                                                                                                                                                        | <b>3</b>    |
| Advanced study of experimental design with application to an individual research project. Prerequisite: PSYC 350 or equivalent.                                                                                                                                                                              |             |
| <b>PSYC 415 DYNAMICS OF BEHAVIOR</b>                                                                                                                                                                                                                                                                         | <b>3</b>    |
| Introduction to the dynamic mechanisms of human adjustment and behavior.                                                                                                                                                                                                                                     |             |
| <b>PSYC 425 PSYCHOLOGY AND RELIGION</b>                                                                                                                                                                                                                                                                      | <b>3</b>    |
| Examination of psychological concepts and human behavior from a biblical and theological perspective.                                                                                                                                                                                                        |             |
| <b>PSYC 426 INTRODUCTION TO COUNSELING AND GUIDANCE PROFESSIONS</b>                                                                                                                                                                                                                                          | <b>4</b>    |
| Introduction to the philosophy, functions, and organization of counseling and guidance programs in school and community agencies.                                                                                                                                                                            |             |
| <b>PSYC 430 PSYCHOLOGICAL TESTING</b>                                                                                                                                                                                                                                                                        | <b>3</b>    |
| Study of the principles of test selection, administration, and interpretation; consideration of the contributions and limitations of the major types of standardized tests and inventories used in the behavioral sciences.                                                                                  |             |
| <b>PSYC 442 MOTIVATION</b>                                                                                                                                                                                                                                                                                   | <b>3</b>    |
| Study of basic drives and causes of behavior in organisms with emphasis upon human behavior.                                                                                                                                                                                                                 |             |
| <b>PSYC 444 SOCIAL PSYCHOLOGY</b>                                                                                                                                                                                                                                                                            | <b>3</b>    |
| Study of the dynamics of social interaction and interpersonal behavior with application to contemporary society.                                                                                                                                                                                             |             |
| <b>PSYC 446 PSYCHOLOGY OF PERSONALITY</b>                                                                                                                                                                                                                                                                    | <b>3</b>    |
| Study of theories concerning personality development, assessment, and adjustment.                                                                                                                                                                                                                            |             |
| <b>PSYC 464 COUNSELING RELATIONSHIPS</b>                                                                                                                                                                                                                                                                     | <b>3</b>    |
| Introduction to psychological theory and skills essential for developing effective, helping relationships with individuals and groups.                                                                                                                                                                       |             |
| <b>PSYC 465 HELPING SKILLS</b>                                                                                                                                                                                                                                                                               | <b>1; 3</b> |
| Training in counseling skills for students planning careers in counseling, deaning, nursing, pastoral or social work, and organizational psychology. Modeling and role play supplemented by group discussion and personal supervision. Prerequisite: PSYC 464 or permission of instructor.                   |             |
| <b>PSYC 489 VOCATIONAL DEVELOPMENT THEORY</b>                                                                                                                                                                                                                                                                | <b>3</b>    |
| Study of theories of vocational choice and methods of studying occupations and occupational information as they relate to educational and vocational guidance.                                                                                                                                               |             |
| <b>PSYC 490 ABNORMAL PSYCHOLOGY</b>                                                                                                                                                                                                                                                                          | <b>3</b>    |
| Study of behavioral disturbances, therapeutic measures, and theories.                                                                                                                                                                                                                                        |             |
| <b>PSYC 494 COOPERATIVE EDUCATION</b>                                                                                                                                                                                                                                                                        | <b>0-4</b>  |
| Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisites: Approval by department; CDEV 210 or permission of the Cooperative Education Director. |             |
| <b>PSYC 495 ANALYSIS OF PSYCHOLOGICAL EXPERIMENTS</b>                                                                                                                                                                                                                                                        | <b>2</b>    |
| Experience in the analysis of psychological research. Prerequisite: PSYC 375 or permission of instructor.                                                                                                                                                                                                    |             |

## EDUCATION AND PSYCHOLOGY

### SPECIAL EDUCATION (SPED)

#### SPED 310 FOUNDATIONS OF SPECIAL EDUCATION 3

An introduction to special education as a field of study and endeavor in American schools. Examines social and historical foundations, the characteristics and etiology of handicapping condition, and their impact on the educational setting. Prerequisite: PSYC 215 or permission of instructor.

#### SPED 315 TEACHING THE PRESCHOOL EXCEPTIONAL CHILD 3

Diagnosis and instructional planning on behalf of the preschool (0-6 years of age) exceptional child.

#### SPED 373 MANAGEMENT OF EXCEPTIONAL INDIVIDUALS 3

In-depth examination of various models and techniques for the management of exceptional individuals within the classroom, home, and community.

#### SPED 430 ISSUES AND TRENDS IN SPECIAL EDUCATION 3

A study of current literature and legislation pertaining to special education and models for the delivery of these services.

#### SPED 433 ASSESSMENT OF EXCEPTIONAL INDIVIDUALS 4

Examination and administration of assessment measures for exceptional individuals. Prerequisite: SPED 310.

#### SPED 437 INSTRUCTION OF EXCEPTIONAL INDIVIDUALS 4

The development and implementation of Individualized Education Programs (IEPs) for exceptional learners.

#### SPED 438 COUNSELING EXCEPTIONAL INDIVIDUALS AND 3 THEIR FAMILIES

Consideration and practice of counseling techniques for use with exceptional individuals and their families. Special attention is given to academic, behavioral, and vocational concerns.

#### SPED 480 FIELD WORK IN SPECIAL EDUCATION 1-4

Provides a broad spectrum of closely supervised experience in actual field settings. Prerequisite: permission of special education adviser.

Please see the *Graduate Bulletin* for a listing of graduate courses in education, special education, and psychology.



## ENGINEERING

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Rod Heisler, Dean; Larry Aamodt, Roger Baltrusch, Michael Bell, Fred Bennett, Jon Cole, Carlton Cross, Karl Feigner, Rob Frohne, Victor Graham, Glenn Masden, Curtis Nelson, Don Riley, Robert Wood.

The Engineering profession applies the principles of mathematics, science, economics, ethics, and social science to use the materials and forces of nature for the benefit of mankind. The fundamental objective of the School of Engineering is to provide its students with an engineering education of the highest possible caliber that will qualify them to enter directly the professional practice of engineering or advanced studies in engineering or other professional areas. Within its efforts to achieve this objective, the faculty is inherently dedicated to encouraging its students to develop a commitment to Christian principles of conduct in their personal and professional activities.

**Degrees Offered.** The School of Engineering offers curricula leading to two distinct degrees. The Bachelor of Science in Engineering (B.S.E.) degree is designed to prepare students to enter professional engineering practice and, also, to provide undergraduate instruction which will serve as an adequate foundation for graduate studies. This curriculum, which includes elective concentrations in civil, electrical, and mechanical engineering, is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc. (formerly Engineers' Council for Professional Development).

The Bachelor of Science (B.S.) degree with a major in bioengineering is intended primarily for students planning to pursue advanced studies in bioengineering, medicine, dentistry, public health, or physiology. It is not designed for students desiring to enter directly into the practice of professional engineering following their undergraduate study.

For Architectural studies see the Preprofessional Programs: Architecture in this bulletin.

**Admission Requirements.** Requirements for admission to the School of Engineering are 40 semester periods of English, 10 semester periods of laboratory science, 30 semester periods of mathematics (beyond general mathematics), and 20 semester periods of history. The mathematics background should include algebra, geometry, and trigonometry. Prospective engineering students are encouraged to prepare themselves broadly by taking as many additional courses as possible in high school mathematics, English, science, social studies, and humanities. Studies in foreign languages and the practical arts are also valuable.

Students with entrance deficiencies may be admitted. However, such deficiencies must be removed before the beginning of the sophomore year. Students who present a transcript of previous successful studies at another approved college or university may be admitted with advanced standing.

Admission to engineering studies is normally made only in September. However, students may be admitted in January or March provided that an acceptable program can be scheduled.

## ENGINEERING

**Affiliation Program.** North American Seventh-day Adventist colleges and universities are affiliated with Walla Walla College under a program which allows students to complete the first one or two years of engineering instruction at any participating institution and then complete degree requirements at Walla Walla College. Each affiliated campus has an engineering coordinator appointed to provide the necessary guidance to insure a smooth transition from the affiliated campus to Walla Walla College. Details of this program can be obtained from the Dean of the School of Engineering.

### ENGINEERING (Bachelor of Science in Engineering)

The professional engineering curriculum emphasizes those subject areas which are common to the broad field of engineering while allowing for the development of professional competence within one of three specific engineering disciplines. The curriculum is also designed to provide for the attainment of cultural and intellectual maturity, the encouragement of personal growth and the development of moral, ethical and social responsibility. The development of broad technical competence within engineering is achieved through a group of mathematics, science, and engineering core courses which emphasize fundamental knowledge, techniques, and processes. Specific professional competence is assured by the completion of a coherent group of courses chosen from civil, electrical, or mechanical engineering. Intellectual, cultural, and moral development is encouraged through the selection of General Studies courses within the curriculum.

Flexibility in this program is provided by elective course selection and limited substitutions, individually chosen in consultation with an adviser and approved by the School of Engineering to form an integral professional engineering program. Students wishing to follow careers in other specialized fields, such as architectural engineering, computer engineering, highway engineering, sanitary engineering, aerospace engineering, electronics engineering, nuclear engineering, or other areas will be prepared to do so through subsequent professional experience or graduate study.

Satisfactory progress depends upon maintaining a 2.00 minimum grade point average. Students who fail to make satisfactory progress may be advised to register with a reduced course load or to consider other educational alternatives.

A student who retains more than 8 hours of D grades on his current scholastic record will automatically have his performance reviewed by the School of Engineering. The school may require that some of the courses be repeated or it may establish alternative requirements. All D- and F grades must be repeated to apply towards graduation.

Students enrolled in the professional curriculum must complete a total of 200 quarter hours, including the engineering general studies requirements, the core requirements, the mathematics and science requirements, and one engineering concentration. Senior students are required to participate in the Senior Engineering Tour and are required to take the Graduate Record Examination, general and subject (Engineering) sections; and the Engineer-In-Training examinations.

### ENGINEERING GENERAL STUDIES REQUIREMENTS (44 credits)

Although the general studies content within the engineering curriculum is similar to the standard General Studies requirements for the baccalaureate degree at Walla Walla College, there are important differences which must be observed. Engineering students must take ENGL 323 in place of ENGL 123. ENGL 323 is normally taken

at the time the student is taking other third-year engineering courses. Engineering students may take upper division classes after completing ENGL 121, 122 and 48 quarter hours of course work.

| Subject Area                       | Credits   |
|------------------------------------|-----------|
| Language Arts                      | 11-14     |
| College Writing                    | 5-8       |
| Writing for Engineers              | 3         |
| Speech                             | 3-4       |
| Physical Education                 | 2-3       |
| Religion                           | 16-18     |
| Approved Electives                 | 0-4       |
| Social Studies                     | 4-11      |
| Humanities                         | 4-11 }    |
|                                    | 10-15     |
| Total General Studies Requirements | <u>44</u> |

(must include one upper division course in humanities or social studies; 6 upper-division religion; a minimum of 10 credits upper division from humanities, social studies and approved religion electives)

Complete details of the general studies program for engineering students, including specific course requirements, are available from the School of Engineering.

### ENGINEERING CORE REQUIREMENTS (48 to 60 credits)

The engineering core consists of a group of studies which emphasize the enduring fundamentals common to the many branches of engineering and the applied sciences. These studies help ensure that the student will enjoy a truly professional career and be prepared to move into new or developing technical areas with confidence. Limited flexibility is provided within the core. However, this flexibility is affected by specific course requirements within each engineering concentration. Students are therefore cautioned to consult with their advisers before selecting these courses.

All students are required to present 48 to 60 credits of core courses depending upon the engineering concentration selected. In addition, the indicated minimum requirements must be satisfied within each individual section of the core.

In the following listings the symbols CE, EE, and ME indicate the core organization for the civil, electrical, and mechanical engineering concentrations respectively. The letter (e) indicates that the marked course is a possible elective, the letter (r) indicates that the marked course is required for that concentration, and the letter (a) indicates that the marked course may be used to fulfill the engineering core elective.

| Functional Techniques |                                         | Credits | CE | EE | ME |
|-----------------------|-----------------------------------------|---------|----|----|----|
| CPTR 141              | Introduction to Programming<br>(Pascal) | 4       | r  | r  | r  |
| CPTR 255              | Computer Graphics                       | 2       | e  | e  | e  |
| DRFT 226              | Architectural Drawing                   | 3       | e  | e  | e  |
| DRFT 236              | Electrical and Electronic<br>Drawing    | 3       | e  | e  | e  |
| ENGR 121, 122         | Introduction to Engineering             | 4       | r  | r  | r  |
| ENGR 123              | Introduction to Engineering             | 2       | e  | e  | e  |
| ENGR 326              | Engineering Economy                     | 3       | r  | r  | r  |
| ENGR 495              | Colloquium (4 quarters required)        | 0       | r  | r  | r  |
| ENGR 496, 497, 498    | Seminar                                 | 3       | r  | r  | r  |
|                       | Minimum Requirements                    |         | 16 | 16 | 16 |

## ENGINEERING

| <b>Electrical Fundamentals</b>            |     | <b>Credits</b>                                   | <b>CE</b> | <b>EE</b> | <b>ME</b> |
|-------------------------------------------|-----|--------------------------------------------------|-----------|-----------|-----------|
| ENGR                                      | 228 | Circuit Analysis                                 | 4         | r         | r         |
| ENGR                                      | 325 | Instrumentation                                  | 3         | e         | a         |
| ENGR                                      | 351 | Linear Network Analysis                          | 4         | e         | r         |
| ENGR                                      | 431 | Electromechanical Energy<br>Conversion           | 4         | e         | r         |
| Minimum Requirements                      |     |                                                  | 7         | 12        | 15        |
| <b>Engineering Mechanics</b>              |     | <b>Credits</b>                                   | <b>CE</b> | <b>EE</b> | <b>ME</b> |
| ENGR 221, 222, 223<br>or<br>ENGR 224, 225 |     | Engineering Mechanics                            | 9         | r         | r         |
| ENGR                                      | 321 | Engineering Mechanics                            | 4         | r         | a         |
| Mechanics of Materials                    |     |                                                  | 13        | 9         | 13        |
| Minimum Requirements                      |     |                                                  |           |           |           |
| <b>Materials Science</b>                  |     | <b>Credits</b>                                   | <b>CE</b> | <b>EE</b> | <b>ME</b> |
| ENGR                                      | 322 | Engineering Materials                            | 4         | r         | e         |
| PHYS                                      | 312 | Physical Electronics and                         | 3         |           | e         |
| PHYS                                      | 315 | Physical Electronics Laboratory                  | 1         |           | e         |
| Minimum Requirements                      |     |                                                  | 4         | 4         | 4         |
| <b>Transport Phenomena</b>                |     | <b>Credits</b>                                   | <b>CE</b> | <b>EE</b> | <b>ME</b> |
| CHEM                                      | 352 | Physical Chemistry                               | 3         | e         |           |
| CHEM                                      | 355 | Physical Chemistry Laboratory                    | 1         | e         |           |
| ENGR                                      | 331 | Fluid Mechanics                                  | 4         | r         | e         |
| ENGR                                      | 332 | Thermodynamics                                   | 4         | e         | r         |
| ENGR                                      | 465 | Heat Transfer                                    | 4         | e         | e         |
| Minimum Requirements                      |     |                                                  | 8         | 8         | 12        |
| <b>Engineering Core Elective</b>          |     | <b>Credits</b>                                   | <b>CE</b> | <b>EE</b> | <b>ME</b> |
| ENGR, PHYS or<br>CPTR                     |     | Approved Engineering Core<br>Elective            | 4         |           | r         |
| Minimum Requirements                      |     |                                                  | 0         | 4         | 0         |
| Minimum Core Requirements                 |     |                                                  | 48        | 53        | 60        |
| <b>MATHEMATICS (27 credits)</b>           |     | <b>Credits</b>                                   | <b>CE</b> | <b>EE</b> | <b>ME</b> |
| MATH 181, 281<br>282, 283                 |     | Analytic Geometry and<br>Calculus I, II, III, IV | 16        | r         | r         |
| MATH 289                                  |     | Linear Algebra and Its<br>Applications           | 3         | r         | r         |
| MATH 312                                  |     | Ordinary Differential Equations                  | 4         | r         | r         |
| MATH 315                                  |     | Probability and Statistics                       | 4         | r         | r         |
| Minimum Requirements                      |     |                                                  | 27        | 27        | 27        |
| <b>SCIENCE (24 credits)</b>               |     | <b>Credits</b>                                   | <b>CE</b> | <b>EE</b> | <b>ME</b> |
| CHEM 141, 142, 143                        |     | General Chemistry                                | 9         | r         | r         |
| CHEM 144, 145, 146                        |     | General Chemistry<br>Laboratory                  | 3         | r         | r         |
| PHYS 251, 252, 253                        |     | Principles of Physics                            | 9         | r         | r         |
| PHYS 254, 255, 256                        |     | Principles of Physics<br>Laboratory              | 3         | r         | r         |
| Minimum Requirements                      |     |                                                  | 24        | 24        | 24        |

**MATHEMATICS/SCIENCE ELECTIVE (4 credits)**

|                           |                                    |   |   |   |   |
|---------------------------|------------------------------------|---|---|---|---|
| BIOL, CHEM,<br>MATH, PHYS | Mathematics or Science<br>Elective | 4 | r | r | r |
|---------------------------|------------------------------------|---|---|---|---|

Electives, approved by the department, must be chosen in consultation with the academic adviser.

**CONCENTRATION: Civil Engineering (53 credits)**

|               |                                            |    |
|---------------|--------------------------------------------|----|
| ENGR 341      | Geology and Soil Mechanics                 | 3  |
| ENGR 342      | Hydrology                                  | 3  |
| ENGR 343      | Hydroenvironmental Engineering<br>Analysis | 4  |
| ENGR 345      | Contracts and Specifications               | 2  |
| ENGR 346      | Surveying                                  | 4  |
| ENGR 348      | Structural Analysis                        | 5  |
| ENGR 364      | Fluid Mechanics Laboratory                 | 1  |
| ENGR 441, 442 | Structures I, II                           | 8  |
| ENGR 445, 446 | Hydroenvironmental Engineering I, II       | 8  |
| ENGR 449      | Transportation Engineering                 | 4  |
|               | Technical Electives                        | 11 |

A minimum of 3 courses must be chosen from Civil Engineering Electives. The other may be chosen from approved BIOL, CHEM, CPTR, ENGR, MATH or PHYS.

Electives, approved by the department, must be chosen in consultation with the academic adviser.

**CONCENTRATION: Electrical Engineering (48 credits)**

|               |                                                                                               |   |
|---------------|-----------------------------------------------------------------------------------------------|---|
| CPTR 215      | Assembly Language Programming                                                                 | 3 |
| ENGR 352      | Feedback and Control Systems                                                                  | 4 |
| ENGR 354      | Digital Logic Circuits                                                                        | 3 |
| ENGR 355      | Microcomputer Systems Design                                                                  | 3 |
| ENGR 356, 357 | Engineering Electronics                                                                       | 8 |
| ENGR 432      | Analog Design }<br>or<br>ENGR 433                                                             | 4 |
| ENGR 451      | Digital Design }<br>ENGR 455                                                                  | 4 |
| ENGR 458      | Electromagnetic Fields<br>Signals and Systems<br>Direct Energy Conversion }<br>or<br>ENGR 460 | 4 |
| ENGR          | Polyphase Machines and Power Systems }<br>EE Electives                                        | 3 |
| CPTR, ENGR    | Technical Electives                                                                           | 8 |
| MATH, PHYS    |                                                                                               | 4 |

Electives, approved by the department, must be chosen in consultation with the academic adviser.

**CONCENTRATION: Mechanical Engineering (41 credits)**

|          |                                    |   |
|----------|------------------------------------|---|
| ENGR 324 | Mechanical Engineering Materials   | 2 |
| ENGR 333 | Thermodynamics and Thermal Systems | 4 |
| ENGR 352 | Feedback and Control Systems       | 4 |
| ENGR 364 | Fluid Mechanics Laboratory         | 1 |
| ENGR 365 | Mechanical Systems Laboratory      | 1 |

## ENGINEERING

|                       |                                    |   |
|-----------------------|------------------------------------|---|
| ENGR 366              | Vibrations                         | 3 |
| ENGR 461              | Kinematics                         | 4 |
| ENGR 462              | Machine Design                     | 4 |
| ENGR 468              | Engineering Finite Element Methods | 4 |
| ENGR                  | ME Electives                       | 8 |
| CPTR, ENGR or<br>MATH | Technical Electives                | 6 |

Electives, approved by the department, must be chosen in consultation with the academic adviser.

## MAJOR IN BIOENGINEERING (Bachelor of Science)

Jon Cole, Chair; Roger Baltrusch, Carlton Cross, Rod Heisler, Larry McCloskey, Don Rigby.

Students majoring in bioengineering will take courses designed to insure a broad preparation in engineering fundamentals, mathematics, and the sciences. Majors will concentrate their studies in an area consistent with their career goals. Electives will be chosen by each student in conference with an assigned adviser from among the members of the bioengineering advisory committee. Each student must receive approval of his/her program from the committee at the beginning of the junior and senior years. Since the bioengineering curriculum is primarily designed to provide a foundation for graduate studies, students whose grade-point averages fall below 3.00 will be encouraged to reconsider their career objectives.

Students majoring in bioengineering must complete a minimum of 69 quarter hours in the major, the required cognates, and the general studies program for the baccalaureate degree as outlined in this bulletin. Writing for Engineers, ENGL 323, which is normally taken concurrently with third-year engineering courses, is required in place of the third quarter of College Writing, ENGL 123.

### Major Requirements:

#### Core Subjects:

|                              |                            |        |
|------------------------------|----------------------------|--------|
| BIOL 101, 102, 103           | General Biology            | 28-30  |
| ENGR 221, 222, 223           | Engineering Mechanics      | 12     |
| or                           |                            |        |
| ENGR 224, 225                | Engineering Mechanics      | 9      |
| ENGR 228                     | Circuit Analysis           | 4      |
| BIOL 495                     | *Colloquium (2-4 Quarters) | 0      |
| ENGR 495                     | *Colloquium (2-4 Quarters) | 0      |
| ENGR 496, 497, 498           | Seminar                    |        |
| or                           |                            |        |
| BIOL 251, 352, 353, 354, 455 | Research Methods           | 3 or 5 |

#### Electrical Fundamentals

|          |                         |     |
|----------|-------------------------|-----|
| ENGR 325 | Instrumentation         | 0-7 |
| ENGR 351 | Linear Network Analysis | 4   |

#### Mechanics and Materials

|               |                                   |   |
|---------------|-----------------------------------|---|
| BIOL 393      | Genetics                          | 4 |
| BIOL 464      | Animal Physiology                 | 4 |
| BIOL 470      | Marine Biophysics                 | 5 |
| CHEM 351, 354 | Physical Chemistry and Laboratory | 4 |
| ENGR 321      | Mechanics of Materials            | 4 |

|                            |                                                                                   |       |              |
|----------------------------|-----------------------------------------------------------------------------------|-------|--------------|
| ENGR 322                   | Engineering Materials                                                             | 4     |              |
| PHYS 312, 315              | Physical Electronics and Laboratory                                               | 4     |              |
| <b>Transport Phenomena</b> |                                                                                   |       | <b>4-9</b>   |
| BIOL 392                   | Cell Biology                                                                      | 4     |              |
| BIOL 401                   | Plant Physiology                                                                  | 4     |              |
| CHEM 352, 355              | Physical Chemistry and Laboratory                                                 | 4     |              |
| CHEM 431, 433              | Biochemistry and Laboratory                                                       | 4     |              |
| ENGR 331, 364              | Fluid Mechanics and Laboratory                                                    | 5     |              |
| ENGR 332                   | Thermodynamics                                                                    | 4     |              |
| ENGR 465                   | Heat Transfer                                                                     | 4     |              |
| PHYS 313                   | Thermodynamics                                                                    | 4     |              |
| <b>Electives</b>           |                                                                                   |       | <b>24-33</b> |
| BIOL                       | Selected Courses                                                                  | 12-21 |              |
| ENGR                       | Selected Courses                                                                  | 12-21 |              |
|                            | Technical Electives                                                               | 0-9   |              |
|                            | Selected courses from MATH, PHYS, CHEM, CPTR, or INDS (21 must be upper division) |       |              |

Electives must be approved by the Bioengineering Advisor Committee after consideration of the total student program.

\*Six Quarters of Colloquium are Required.

**69**

#### Cognates:

|                    |                                        |   |
|--------------------|----------------------------------------|---|
| CPTR 141           | Introduction to Programming (Pascal)   | 4 |
| CHEM 141, 142, 143 | General Chemistry                      | 9 |
| CHEM 144, 145, 146 | General Chemistry Laboratory           | 3 |
| CHEM 321, 322, 323 | Organic Chemistry                      | 9 |
| CHEM 324, 325, 326 | Microscale Organic Laboratory          | 3 |
| MATH 181, 281      | Analytic Geometry and Calculus I, II   | 8 |
| MATH 282, 283      | Analytic Geometry and Calculus III, IV | 8 |
| MATH 312           | Ordinary Differential Equations        | 4 |
| MATH 315           | Probability and Statistics             | 4 |
| PHYS 251, 252, 253 | Principles of Physics                  | 9 |
| PHYS 254, 255, 256 | Principles of Physics Laboratory       | 3 |

#### COMPUTER SCIENCE (CPTR)

See the Computer Science section of this bulletin.

|                                               |   |
|-----------------------------------------------|---|
| CPTR 141 INTRODUCTION TO PROGRAMMING (PASCAL) | 4 |
| CPTR 215 ASSEMBLY LANGUAGE PROGRAMMING        | 3 |
| CPTR 255 COMPUTER GRAPHICS                    | 2 |

#### ENGINEERING (ENGR)

|                                                                                                                                                                                                                                                                                                                                                                                                                        |         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| ENGR 121, 122, 123 INTRODUCTION TO ENGINEERING                                                                                                                                                                                                                                                                                                                                                                         | 2, 2, 2 |
| Introduction to the design process and elements of professional engineering. Engineering communications, with emphasis on sketching, conventional engineering drafting practices, Computer Aided Design and Computer Aided Engineering (CAD/CAE), pictorial representations; principles of descriptive geometry, computer-based engineering calculations. Laboratory work required. ENGR 121 prerequisite to ENGR 123. |         |

## ENGINEERING

**ENGR 221, 222, 223 or 224, 225 ENGINEERING MECHANICS** 3, 3, 3 or 4, 5  
Introduction to two- and three-dimensional equilibria employing vector algebra; friction; centroids and centers of mass, virtual work, and moments of inertia. One- and two-dimensional kinetics and kinematics of rigid bodies by vector calculus; dynamics of rotation, translation, and plane motion; relative motion; work and energy; impulse and momentum. Must be taken in sequence. May be taken as a 3, 3, 3, sequence Autumn, Winter, Spring or a 4, 5 sequence Winter and Spring. Corequisite for 221 and 224: MATH 282; Corequisite for 222 and 225: MATH 283.

**ENGR 228 CIRCUIT ANALYSIS** 4  
Study of circuit variables and parameters; Kirchoff's laws and network solution; equivalent circuits, network theorems; natural and complete response; sinusoidal steady-state, phasors, and impedance; frequency characteristics; power and power factor. Laboratory work required. Prerequisite: MATH 282. Recommended prerequisite: PHYS 252.

**ENGR 321 MECHANICS OF MATERIALS** 4  
Study of stresses and strains, deformations and deflections of posts, shafts, beams, columns; combined stresses; elasticity. Computational and demonstrational laboratory required. Prerequisite: ENGR 222 or 224.

**ENGR 322 ENGINEERING MATERIALS** 4  
Study of the science of engineering materials. Crystal structures, electron transport in solids, single-phase metals, multiphase materials, equilibria, microstructures and properties, thermal processing, and corrosion of metals. Laboratory work required. Prerequisite: CHEM 143 or equivalent.

**ENGR 323 CIVIL ENGINEERING MATERIALS** 3  
Study of the engineering properties of concrete, wood, asphalt and asphaltic concrete. Laboratory work required. Prerequisite: ENGR 322 or permission of instructor.

**ENGR 324 MECHANICAL ENGINEERING MATERIALS** 2  
Study of polymer, ceramic, and composite materials. Material selection. Joining and manufacturing processes. Laboratory work required. Prerequisite: ENGR 322.

**ENGR 325 INSTRUMENTATION** 3  
Study of theory and application of modern instrumentation; validation of experimental data. Laboratory work required. Prerequisite: ENGR 228 or permission of instructor.

**ENGR 326 ENGINEERING ECONOMY** 3  
Study of business, economic, and ethical aspects of engineering practice. Introduction to engineering organization and program management techniques. Prerequisite: junior standing in engineering.

**ENGR 331 FLUID MECHANICS** 4  
Introduction to fluid statics and the dynamics of fluid motion; transport phenomena as represented by the conservation of mass, momentum, and energy in laminar and turbulent flowing systems using the control volume formulations; dimensional analysis and similitude; inviscid and viscous flow in pipes and an introductory analysis of boundary layer flow. Prerequisites: CPTR 141; MATH 283. Corequisite: ENGR 223 or ENGR 225. Recommended prerequisites: PHYS 251, 252, 253, MATH 289.

**ENGR 332 THERMODYNAMICS** 4  
Introduction to the nature of energy and study of energy transport conservation in closed and flowing systems; properties and states of solids, liquids, vapors, and gases; enthalpy; meaning and production of entropy and introduction to cyclic systems. Prerequisite: PHYS 253. Recommended prerequisites: ENGR 331, MATH 312.

|                                                                                                                                                                                                                                                                                                                                                                                            |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>ENGR 333 THERMODYNAMICS AND THERMAL SYSTEMS</b>                                                                                                                                                                                                                                                                                                                                         | <b>4</b> |
| Study of thermodynamics of state for complex systems, detailed analysis of power and reversed cycle systems, thermodynamics, and equilibrium principles of nonreacting and reacting mixtures; application of the principles of global thermochemical energy balances to real power systems; introduction to compressible flow. Prerequisite: ENGR 332. Recommended prerequisite: ENGR 331. |          |
| <b>ENGR 341 GEOLOGY AND SOIL MECHANICS</b>                                                                                                                                                                                                                                                                                                                                                 | <b>3</b> |
| Introduction to geological structure, process, and weathering; soils properties, classification, and interpretation; subsurface investigation; flow of water through soils. Laboratory work required. Prerequisite: CHEM 143. Corequisite: ENGR 331.                                                                                                                                       |          |
| <b>ENGR 342 HYDROLOGY</b>                                                                                                                                                                                                                                                                                                                                                                  | <b>3</b> |
| Introduction to precipitation; occurrence, measurement, transport, and storage of ground and surface waters; statistical models. Prerequisites: CPTR 141; ENGR 331; ENGR 341. Recommended prerequisite: MATH 315.                                                                                                                                                                          |          |
| <b>ENGR 343 HYDROENVIRONMENTAL ENGINEERING ANALYSIS</b>                                                                                                                                                                                                                                                                                                                                    | <b>4</b> |
| Study of characteristics of water and wastewater; analysis of physical, chemical, and biological treatment processes; equilibrium and dynamic systems. Prerequisites: CHEM 143; ENGR 342; MATH 312. Recommended prerequisite: ENGR 364.                                                                                                                                                    |          |
| <b>ENGR 345 CONTRACTS AND SPECIFICATIONS</b>                                                                                                                                                                                                                                                                                                                                               | <b>2</b> |
| Introduction to the preparation and interpretation of contracts and specifications; ethical, legal, and contractual relations of the professional engineer to the public, the owner, and the contractor. Prerequisite: junior standing in engineering.                                                                                                                                     |          |
| <b>ENGR 346 SURVEYING</b>                                                                                                                                                                                                                                                                                                                                                                  | <b>4</b> |
| Use of basic surveying instruments; computational methods for traverses, routes, and earthwork; mapping. Prerequisites: CPTR 141, ENGR 123. Corequisite: MATH 281.                                                                                                                                                                                                                         |          |
| <b>ENGR 348 STRUCTURAL ANALYSIS</b>                                                                                                                                                                                                                                                                                                                                                        | <b>5</b> |
| Study of graphical, algebraic, and matrical analyses of determinate and indeterminate foundations and structures; basic concepts of soils, interactions with loads and structures; load-stress parameters for beams, girders, columns, trusses, connections, and frames. Computation laboratory required. Prerequisites: CPTR 141; ENGR 321; ENGR 322; MATH 289; Corequisite: MATH 312.    |          |
| <b>ENGR 351 LINEAR NETWORK ANALYSIS</b>                                                                                                                                                                                                                                                                                                                                                    | <b>4</b> |
| Introduction to linear network theory including Laplace-transform analysis and state-space representations. Fourier analysis of periodic signals. Prerequisites: ENGR 228; MATH 283. Corequisites: MATH 289 and 312.                                                                                                                                                                       |          |
| <b>ENGR 352 FEEDBACK AND CONTROL SYSTEMS</b>                                                                                                                                                                                                                                                                                                                                               | <b>4</b> |
| Introduction to state-space analysis methods for continuous dynamic systems and processes; design of control systems including development of performance criteria, pole-placement design and linear state observers. Classical analysis by means of frequency-domain methods such as root-locus diagrams and Bode plots. Prerequisite: ENGR 351.                                          |          |
| <b>ENGR 354 DIGITAL LOGIC CIRCUITS</b>                                                                                                                                                                                                                                                                                                                                                     | <b>3</b> |
| Introduction to the theory and application of digital logic circuits, logic functions; logic gates, flip-flops, counters, state machines, and modern integrated logic families. Laboratory work required. Corequisite: CPTR 215.                                                                                                                                                           |          |
| <b>ENGR 355 MICROPROCESSOR SYSTEM DESIGN</b>                                                                                                                                                                                                                                                                                                                                               | <b>3</b> |
| Design of microprocessor systems; system organization, CPU structure, address decoding and memory design; wait-state generation, interrupts, real-time operating systems; input/output, direct memory access, device drivers. Laboratory work required. Prerequisites: CPTR 215, ENGR 228, ENGR 354.                                                                                       |          |

## ENGINEERING

|                                                                                                                                                                                                                                                                                                                                                                                                                              |             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>ENGR 356, 357, ENGINEERING ELECTRONICS</b>                                                                                                                                                                                                                                                                                                                                                                                | <b>4, 4</b> |
| Study of characteristics and applications of discrete and integrated solid-state electronic devices and circuits; large-signal analysis, biasing; small-signal analysis, low and high frequency models, classical amplifier circuits, feedback amplifiers, operational-amplifier circuits; integrated-circuit electronics. Laboratory work required. Corequisite for ENGR 356: ENGR 351. Corequisite for ENGR 357: ENGR 352. |             |
| <b>ENGR 364 FLUID MECHANICS LABORATORY</b>                                                                                                                                                                                                                                                                                                                                                                                   | <b>1</b>    |
| Laboratory instruction in fluid mechanics. Incompressible and elementary compressible fluid flow with special application of steady state and conservation principles of mass, momentum, and energy; fluid flow measurements and real fluid phenomena in pipelines; theoretical and experimental analysis of open channel flow. Prerequisite: ENGR 331.                                                                      |             |
| <b>ENGR 365 MECHANICAL SYSTEMS LABORATORY</b>                                                                                                                                                                                                                                                                                                                                                                                | <b>1</b>    |
| Laboratory instruction in thermodynamics and energy systems. Internal combustion engine study. Structural dynamics. Lubricant properties. Corequisite: ENGR 333.                                                                                                                                                                                                                                                             |             |
| <b>ENGR 366 VIBRATIONS</b>                                                                                                                                                                                                                                                                                                                                                                                                   | <b>3</b>    |
| Study of periodic motion; free and forced vibrations of single and multi-degree-of-freedom systems, nonsinusoidal forcing functions, and normal modes. Prerequisites: ENGR 223 or 225; ENGR 351; ENGR 352; MATH 289; MATH 312.                                                                                                                                                                                               |             |
| <b>ENGR 431 ELECTROMECHANICAL ENERGY CONVERSION</b>                                                                                                                                                                                                                                                                                                                                                                          | <b>4</b>    |
| Study of the electromechanical energy conversion principles and their application to electrical machinery; magnetic circuits, force, and torque; solenoids, transformers, AC and DC excitation of energy conversion devices; DC machines, control, and applications. Laboratory work. Prerequisite: ENGR 228.                                                                                                                |             |
| <b>ENGR 432, ANALOG DESIGN</b>                                                                                                                                                                                                                                                                                                                                                                                               | <b>4</b>    |
| Concepts of analog circuit design; introduction to worst-case analysis, operational amplifier applications; oscillators; power amplifiers; analog-to-digital and digital-to-analog converters. Laboratory work required. Prerequisite: ENGR 357.                                                                                                                                                                             |             |
| <b>ENGR 433 DIGITAL DESIGN</b>                                                                                                                                                                                                                                                                                                                                                                                               | <b>4</b>    |
| MSI and LSI circuits and applications; analysis and design of synchronous and asynchronous circuits and systems; programmable controller applications. Laboratory work required. Prerequisite: ENGR 355.                                                                                                                                                                                                                     |             |
| <b>ENGR 441, 442 STRUCTURES I, II</b>                                                                                                                                                                                                                                                                                                                                                                                        | <b>4, 4</b> |
| Study of timber, basic concrete, reinforced concrete and steel, and elastic design concepts for determinate and indeterminate structures; industrial and multistory buildings, bridges, rigid frames, and arches. Computation laboratory required. Prerequisite: ENGR 348.                                                                                                                                                   |             |
| <b>ENGR 443 STRUCTURES III</b>                                                                                                                                                                                                                                                                                                                                                                                               | <b>3</b>    |
| Study of elastic designs of timber, concrete, and steel determinate and indeterminate structures; applications to foundation and soils problems; general and matrix analyses; total building layout and design problems. Computation laboratory required. Prerequisite: ENGR 442.                                                                                                                                            |             |
| <b>ENGR 444 STRUCTURAL DESIGN</b>                                                                                                                                                                                                                                                                                                                                                                                            | <b>3</b>    |
| Study of design concepts as applied to structural systems from roof framing to foundations. Design examples are chosen to illustrate the use of different materials, analysis techniques, and methods of production. Computation laboratory required. Corequisite: ENGR 443.                                                                                                                                                 |             |
| <b>ENGR 445 HYDROENVIRONMENTAL ENGINEERING I</b>                                                                                                                                                                                                                                                                                                                                                                             | <b>4</b>    |
| Analysis and design of water distribution systems, and sewage and stormwater collection systems. Computation laboratory required. Prerequisites: CPTR 141; ENGR 343.                                                                                                                                                                                                                                                         |             |
| <b>ENGR 446 HYDROENVIRONMENTAL ENGINEERING II</b>                                                                                                                                                                                                                                                                                                                                                                            | <b>4</b>    |
| Design of physical, chemical, and biological treatment processes of water and wastewater treatment. Laboratory work required. Prerequisites: CHEM 143; ENGR 446. Recommended pre-requisite: ENGR 445.                                                                                                                                                                                                                        |             |

|                                                                                                                                                                                                                                                                                                                                                                                                                        |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>ENGR 447 RECEIVING WATER ANALYSIS</b>                                                                                                                                                                                                                                                                                                                                                                               | <b>3</b> |
| Design of facilities for disposal of wastewaters to land and water systems; analysis of surface waters receiving wastewater effluents. Laboratory work required. Corequisite: ENGR 343.                                                                                                                                                                                                                                |          |
| <b>ENGR 448 HYDROENVIRONMENTAL DESIGN</b>                                                                                                                                                                                                                                                                                                                                                                              | <b>3</b> |
| Study of advanced water and wastewater treatment processes and practices. Emphasis upon current literature and recent developments in state-of-the-art practices. Prerequisite: ENGR 446. Will not be offered 1991-92.                                                                                                                                                                                                 |          |
| <b>ENGR 449 TRANSPORTATION ENGINEERING</b>                                                                                                                                                                                                                                                                                                                                                                             | <b>4</b> |
| Study of the various modes of transportation that comprise the transportation system. Consideration is given to the planning, design and operation of the system. Introduction to traffic engineering. Prerequisites: ENGR 341; ENGR 442; ENGR 445.                                                                                                                                                                    |          |
| <b>ENGR 450 GEOTECHNICAL ENGINEERING</b>                                                                                                                                                                                                                                                                                                                                                                               | <b>3</b> |
| Study of stress distribution and deformation of soils; applications to foundation and slope stability. Laboratory work required. Prerequisites: ENGR 321; ENGR 341. Will not be offered 1991-92.                                                                                                                                                                                                                       |          |
| <b>ENGR 451 ELECTROMAGNETIC FIELDS</b>                                                                                                                                                                                                                                                                                                                                                                                 | <b>4</b> |
| Study, by vector calculus, of static and dynamic electric and magnetic fields. Unbounded and bounded fields, fields in material media, force and torque, energy and potential functions, and Faraday induction. Prerequisites: MATH 312; PHYS 253.                                                                                                                                                                     |          |
| <b>ENGR 452 ELECTROMAGNETIC PROPAGATION AND RADIATION</b>                                                                                                                                                                                                                                                                                                                                                              | <b>4</b> |
| Study of the propagation of electromagnetic energy; plane waves, transmission lines, and wave guides; radiation from dipole antennas; introduction to arrays. Laboratory work required. Prerequisite: ENGR 451.                                                                                                                                                                                                        |          |
| <b>ENGR 454 DIGITAL CONTROL SYSTEMS</b>                                                                                                                                                                                                                                                                                                                                                                                | <b>4</b> |
| Study of the design and application of digital control methods to real-time dynamic systems such as servomechanisms, chemical processes, and vehicles. Analytical techniques include both transform (classical control) and state-space (modern control) methods. Prerequisite: ENGR 352. Recommended prerequisites: ENGR 455, MATH 315.                                                                               |          |
| <b>ENGR 455 SIGNALS AND SYSTEMS</b>                                                                                                                                                                                                                                                                                                                                                                                    | <b>4</b> |
| Introduction to continuous and discrete signal and system analysis; Fourier series, convolution, Fourier transforms, and discrete Fourier transforms. Prerequisites: ENGR 351; MATH 312.                                                                                                                                                                                                                               |          |
| <b>ENGR 456 COMMUNICATIONS SYSTEMS</b>                                                                                                                                                                                                                                                                                                                                                                                 | <b>4</b> |
| Introduction to analog and digital communication systems, including topics in modulation; baseband and bandpass signals; power spectral density and bandwidth; random processes; noise, signal-to-noise ratio, and error probability; and system performance. Prerequisite: ENGR 455. Recommended prerequisite: MATH 315.                                                                                              |          |
| <b>ENGR 457 LINEAR NETWORK DESIGN</b>                                                                                                                                                                                                                                                                                                                                                                                  | <b>4</b> |
| Introduction to the synthesis of linear networks; amplifier design principles for both lumped and distributed elements, two-port parameters, the Smith chart; bias stabilization, neutralization, impedance matching; noise performance, sensitivity; passive filters, switched-capacitor filters; practical design rules. Laboratory work required. Prerequisite: ENGR 357. Recommended prerequisites: ENGR 432, 455. |          |
| <b>ENGR 458 DIRECT ENERGY CONVERSION</b>                                                                                                                                                                                                                                                                                                                                                                               | <b>3</b> |
| Study of the principles and applications of direct modes of energy conversion; photovoltaics, thermoelectrics, fuel cells, magnetohydrodynamics, thermionics. Prerequisite: ENGR 228, ENGR 332.                                                                                                                                                                                                                        |          |
| <b>ENGR 460 POLYPHASE MACHINES AND POWER SYSTEMS</b>                                                                                                                                                                                                                                                                                                                                                                   | <b>3</b> |
| Three-phase power systems and energy conversion in induction and synchronous machines, transformer systems, symmetrical components. Laboratory work required. Prerequisite: ENGR 431.                                                                                                                                                                                                                                  |          |

## ENGINEERING

### ENGR 461 KINEMATICS

4

Introduction to three-dimensional dynamics; geometrical kinematics, including analysis of cams, linkages and curvature relations by analytical and graphical methods; analytical kinematics for position, velocity, and acceleration analysis of plane mechanisms. Prerequisites: ENGR 223 or ENGR 225; MATH 289; MATH 312.

### ENGR 462 MACHINE DESIGN

4

Design of machines and machine elements; study of stress failure theories applied to machine elements; industrial design problems; CAD methods. Prerequisites: ENGR 321; ENGR 324; ENGR 461; ENGR 468.

### ENGR 464 DYNAMIC SYSTEM DESIGN

4

Analysis and design of dynamic systems containing mechanical, electrical, pneumatic, and hydraulic elements; includes modeling and computer simulation. Uses CAD methods. Prerequisites: ENGR 366, ENGR 462.

### ENGR 465 HEAT TRANSFER

4

Study of single and multidimensional steady-state and transient heat conduction; thermal radiation involving black and gray bodies and gas-filled enclosures; solar radiation; free and forced convection through ducts and over exterior surfaces; heat exchangers; combined heat transfer problems. Prerequisite: MATH 312.

### ENGR 466 MECHANICAL DESIGN

4

Study of design of mechanical systems and controls, particularly related to buildings and power generation. Prerequisites: ENGR 333; ENGR 364; ENGR 365; ENGR 465.

### ENGR 467 ROBOTICS

4

Introduction to the kinematics, dynamics, and computer control of robot manipulators, with applications of robotic systems to modern automated manufacturing methods. Prerequisite: ENGR 352.

### ENGR 468 ENGINEERING FINITE ELEMENT METHODS

4

Introduction to finite element methods for the solution of problems in structures, solid mechanics, heat transfer and other areas. Techniques for obtaining approximate numerical solutions to governing differential equations for various types of systems are covered. Industrial software is applied to a broad range of engineering problems. Prerequisite: MATH 312.

### ENGR 494 COOPERATIVE EDUCATION

0-2

Individual contract arrangement involving students, faculty, and cooperating industries to gain practical engineering experience in an off-campus setting. Prerequisite: Permission of the Dean of the School of Engineering.

### ENGR 495 COLLOQUIUM

0

Lectures on current engineering practice and other selected topics related to the engineering profession. Engineering degree candidates must satisfactorily complete four quarters, at least one of which must be during the senior year. Graded S or NC.

### ENGR 496, 497, 498 SEMINAR

1, 1, 1

Presentation and discussion of current topics of interest within professional engineering. Each student is required to conduct an approved engineering design project from conception to final oral and written reports. Prerequisite: senior standing in engineering.

## ENVIRONMENTAL STUDIES (ENVI)

### ENVI 385 THE ENVIRONMENT AND MAN

4

Interdisciplinary consideration of current topics involving the interrelations between man and his environment.

## ENGLISH

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Beverly Beem, Chair; Terrie Aamodt, Nancy Cross, Dan Lamberton (on leave), Sylvia Nosworthy, David Reimer, Nancy Semotiuk, Carolyn Shultz, Gary Wiss.

In its general studies courses, the department aims to enhance the student's ability to use language, the vehicle of society. The writing courses give instruction in clear, effective writing. The literature courses address significant and enduring issues that lead to a broad understanding of human experience.

The major in English provides a foundation for careers in communications, community service, education, government, and journalism, and pre-professional preparation for law, business, and medicine. Such professions place a high value on the ability to read intelligently, to write clearly, and to understand human experience. The student can choose electives in the major to provide an emphasis in writing or literature as desired.

The minor in English is a valuable way for students in any major to polish their writing skills or to enrich themselves through literature. It is especially useful to students who plan a career in teaching. The flexibility of the minor allows students to design it according to individual interests.

### MAJOR IN ENGLISH (Bachelor of Arts)

A student majoring in English must complete 58 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general and subject (English) sections.

#### Major Requirements:

|                                                                                                                      |                                           |     |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-----|
| ENGL 210, 211, 212                                                                                                   | Survey of English and American Literature | 12  |
| ENGL 234                                                                                                             | Literary Analysis                         | 4   |
| ENGL 324 to 336                                                                                                      | Writing                                   | 6   |
| ENGL 344 to 356                                                                                                      | English Literature                        | 12  |
| ENGL 364 to 366                                                                                                      | American Literature                       | 4   |
| ENGL 444 to 466                                                                                                      | Special Area                              | 6-7 |
| ENGL 484 to 485                                                                                                      | Language                                  | 3   |
| ENGL 496, 497                                                                                                        | Seminar                                   | 3   |
|                                                                                                                      | Electives                                 | 7-8 |
| Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. |                                           | 58  |

#### Cognates:

|               |                     |   |
|---------------|---------------------|---|
| HIST 274, 275 | History of England  | 8 |
| SPCH 211      | Oral Interpretation | 4 |

#### Teacher Certification:

Students wishing teacher certification must take the following courses and fulfill certification requirements as listed by the Education and Psychology Department.

|          |                           |   |
|----------|---------------------------|---|
| ENGL 284 | Advanced English Grammars | 3 |
| ENGL 329 | Writing Theory            | 3 |

## ENGLISH

|          |                                         |   |   |
|----------|-----------------------------------------|---|---|
| ENGL 374 | Literature for Children                 | } | 3 |
| or       |                                         |   |   |
| ENGL 375 | Literature for Young Adults             |   |   |
| ENGL 395 | Methods of Teaching High School English |   | 3 |

### MINOR IN ENGLISH

A student minoring in English must complete 30 quarter hours; 10 must be upper division:

|                    |                                                                   |    |
|--------------------|-------------------------------------------------------------------|----|
| ENGL 210, 211, 212 | Survey of English and American Literature                         | 12 |
| ENGL 234           | Literary Analysis                                                 | 4  |
| ENGL 344 to 366    | English or American Literature                                    | 4  |
|                    | Electives (6 must be upper division;<br>3 may be ENGL 374 or 375) | 10 |
|                    |                                                                   | —  |
|                    | Approval of English adviser required.                             | 30 |

### GENERAL STUDIES WRITING (ENGL)

*The following courses do not apply toward an English major or minor.*

|                                                                                                                                                                                                                                                                                                                                                                                               |   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| ENGL 100 WRITING SKILLS                                                                                                                                                                                                                                                                                                                                                                       | 4 |
| Study of basic grammar, usage, and punctuation in the context of writing; emphasis on sentence and paragraph work. Short writing assignments on word processors required. Diagnostic test at the beginning with a competency-based exit exam at the end. Graded S/NC only. Required of students who do not place in ENGL 141. Corequisite: RDNG 100. Credit does not apply toward graduation. |   |
| ENGL 111 ENGLISH AS SECOND LANGUAGE                                                                                                                                                                                                                                                                                                                                                           | 4 |

|                                                                                                                                                                                                                                                                                                         |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| ENGL 111 ENGLISH AS SECOND LANGUAGE                                                                                                                                                                                                                                                                     | 4 |
| Study of writing for students whose first language is not English. Includes a study of the structure of English and extensive writing practice. Language laboratory may be required. The department will determine further English placement for students completing the course. Corequisite: RDNG 100. |   |

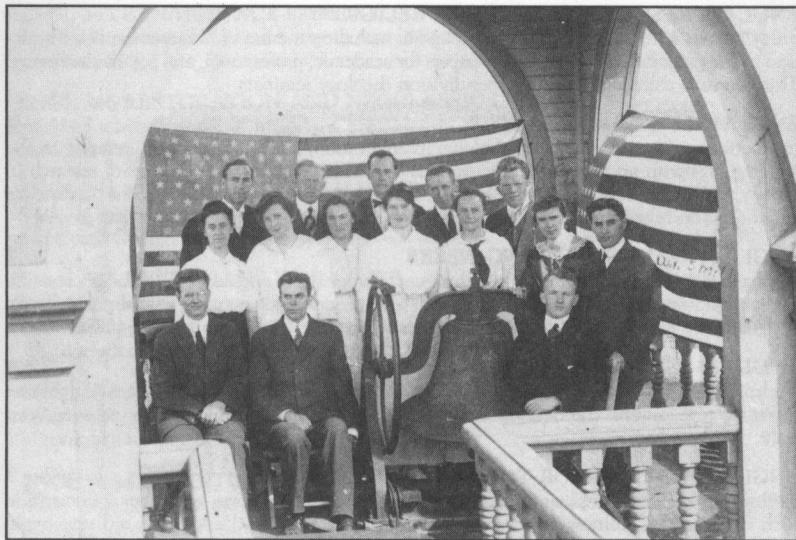
|                                                                                                                                                                                                             |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| ENGL 114 DIRECTED WRITING FOR INTERNATIONAL STUDENTS                                                                                                                                                        | 1-2 |
| An individualized course in writing for students whose first language is not English. Prerequisite: ENGL 111 or permission of the instructor. May be required as a prerequisite or corequisite to ENGL 121. |     |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| ENGL 121, 122, 123 COLLEGE WRITING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3, 3, 2 |
| Study and practice in the forms of writing necessary for all college writing. In the first quarter, personal and expository writing forms with emphasis on understanding the writing process; in the second quarter, expository and persuasive writing techniques, analysis, argument, and an introduction to the library and research techniques, with emphasis on developing a clear writing style; in the third quarter, research and information-gathering techniques and writing with emphasis on the research paper. Must be taken in sequence. Prerequisite: satisfactory scores on placement tests. |         |

|                                                          |         |
|----------------------------------------------------------|---------|
| ENGL 141, 142, 143 COLLEGE WRITING (HONORS)              | 3, 3, 2 |
| See the General Studies Honors section of this Bulletin. |         |

### GENERAL STUDIES LITERATURE (ENGL)

|                                                                                                                                                                                                   |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| ENGL 204 INTRODUCTION TO LITERATURE                                                                                                                                                               | 4 |
| Introduction to the art of reading and studying literature, emphasizing the methods of analyzing poetry, stories, and drama. Will not apply toward an English major. Will not be offered 1991-92. |   |



Poets club organized fall of 1916, pose in the belfry of administration building

**ENGL 207 WORLD LITERATURE**

4

Study of selected literary masterpieces from classical times to the present, emphasizing the literature of the Western world. Will not apply toward an English major. Will not be offered 1991-92.

**ENGL 209 RELIGIOUS LITERATURE**

4

Study of the works of major Christian writers. Will not apply toward an English major. Will not be offered 1991-92.

**ENGL 210, 211, 212 SURVEY OF ENGLISH AND AMERICAN LITERATURE**

4, 4, 4

A survey of English and American Literature and literary history from Anglo-Saxon times to the present. The first quarter covers Anglo-Saxon, medieval, and renaissance literature; the second quarter, neoclassic and romantic literature; and the third quarter, 19th-century and 20th-century literature. Applies toward an English major.

**ENGL 214 THEMES IN LITERATURE**

4

Study of selected works that develop a particular literary theme. Specific themes to be studied vary from quarter to quarter; see *Class Schedule*. Will not apply toward an English major.

**ENGL 215 FILM LITERATURE**

4

History of film development and introduction to the basic techniques of film expression leading to a study of film genres. Intended to broaden the students' critical appreciation of literature and to encourage responsible, mature criteria for judging film literature. Will not apply toward an English major.

**ENGL 311, 312, 313 WESTERN THOUGHT II (HONORS)**

4, 4, 4

See the General Studies Honors section of this Bulletin.

**WRITING (ENGL)**

ENGL 121, 122, 123; or 141, 142, 143 are prerequisites to all other writing courses.

## ENGLISH

### ENGL 224 RESEARCH WRITING IN RELIGION

3

Study of research and writing skills in religion, including the use of library resources; instruction in the preparation and writing of papers for academic, professional, and popular audiences. This course is prerequisite to all upper-division theology seminars.

### ENGL 234 LITERARY ANALYSIS

4

Instruction and practice in close analysis, interpretation, and evaluation of literature in the major genres with an introduction to various critical approaches and methods of research in literary history; includes the writing of critical essays. Intended to prepare the student for upper-division literature courses.

### ENGL 323 WRITING FOR ENGINEERS

3

Emphasizes the research and writing techniques appropriate to engineering. Includes a research paper and other papers for both professional and general audiences. Corequisite courses are designated by the School of Engineering. Prerequisites: ENGL 122 or 142 or equivalent.

### ENGL 324 ESSAY WRITING

3

Techniques of writing nonfiction in a range of styles for a variety of audiences. Emphasizes intensive revision and the development of critical writing and thinking. Offered even years only.

### ENGL 325 WRITING FOR THE PROFESSIONS

3

Techniques of researching, writing, and presenting proposals, reports, and other documents in such fields as law, business, science, engineering, and education. Designed to aid students in writing papers in their major fields and professional careers.

### ENGL 329 WRITING THEORY

3

A study of composition theory and the writing process. Through writing practice, students study the application of this theory to their own work and to the teaching of writing.

### ENGL 334 POETRY WRITING

3

A writing course designed to study and apply the basic principles of poetics. Analysis and discussion of student work. Offered even years only.

### ENGL 335 NARRATIVE WRITING

3

Study of narrative theory and practice in the techniques of narrative writing, including characterization, theme, and plot. Analysis and discussion of student work.

### ENGL 336 DRAMA WRITING

3

Study of dramatic theory and practice in planning, writing, and revising a play. The focus is primarily on the fundamentals of writing drama. Analysis and discussion of student work. Will not be offered 1991-92.

### ENGL 338 DIRECTED WRITING

1-2

Development and refinement of writing skills through an individualized program of writing projects to be chosen in consultation with the instructor. Limited enrollment; admission by permission of instructor.

## LITERATURE AND LANGUAGE (ENGL)

Unless otherwise stated, ENGL 234 or permission of instructor is prerequisite to all literature courses listed below.

### ENGL 284 ADVANCED ENGLISH GRAMMARS

3

Study of traditional and transformational grammars; taught especially for prospective teachers and writers. Prerequisites: ENGL 121, 122, 123; or ENGL 141, 142, 143.

### ENGL 344 MEDIEVAL LITERATURE

4

Study of English literature from its origins to about 1500. Literature in Old and Middle English to be read in translation; Chaucer's works to be read in the original Middle English. Offered odd years only.

|                                                                                                                                                                                                                                                                                                        |               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>ENGL 345 RENAISSANCE LITERATURE</b>                                                                                                                                                                                                                                                                 | <b>4</b>      |
| Study of the major authors and literary movements of the English Renaissance. Offered even years only.                                                                                                                                                                                                 |               |
| <b>ENGL 346 RESTORATION AND NEOCLASSIC LITERATURE</b>                                                                                                                                                                                                                                                  | <b>4</b>      |
| Study of selected works of important seventeenth- and eighteenth-century English authors, including Dryden, Swift, Pope and Johnson. Offered odd years only.                                                                                                                                           |               |
| <b>ENGL 354 ROMANTIC ENGLISH LITERATURE</b>                                                                                                                                                                                                                                                            | <b>4</b>      |
| Study of major romantic English authors, including Wordsworth, Coleridge, Byron, Shelley and Keats. Offered even years only.                                                                                                                                                                           |               |
| <b>ENGL 355 VICTORIAN LITERATURE</b>                                                                                                                                                                                                                                                                   | <b>4</b>      |
| Study of representative works of major nineteenth-century British poets and prose writers (1830-1870), including Tennyson, Browning, Hopkins, Carlyle, Arnold, Newman, Ruskin. Also includes one or two Victorian novels. Offered even years only.                                                     |               |
| <b>ENGL 356 TWENTIETH-CENTURY ENGLISH LITERATURE</b>                                                                                                                                                                                                                                                   | <b>4</b>      |
| Study of English literature since 1914; significant works studied in relation to intellectual and historical developments. Offered odd years only.                                                                                                                                                     |               |
| <b>ENGL 364 ROMANTIC AMERICAN LITERATURE</b>                                                                                                                                                                                                                                                           | <b>4</b>      |
| Study of major romantic American authors, including Emerson, Thoreau, Hawthorne and Melville. Offered odd years only.                                                                                                                                                                                  |               |
| <b>ENGL 365 AMERICAN REALISM AND NATURALISM</b>                                                                                                                                                                                                                                                        | <b>4</b>      |
| Study of major American authors who typify nineteenth-century realism and naturalism. Offered even years only.                                                                                                                                                                                         |               |
| <b>ENGL 366 TWENTIETH-CENTURY AMERICAN LITERATURE</b>                                                                                                                                                                                                                                                  | <b>4</b>      |
| Study of American literature since 1900; significant works studied in relation to intellectual and historical developments. Offered even years only.                                                                                                                                                   |               |
| <b>ENGL 394 DIRECTED READING</b>                                                                                                                                                                                                                                                                       | <b>1-2; 2</b> |
| Independent reading for upper-division students who wish to continue broadening their knowledge of literature in a particular area by extensive reading to be chosen in consultation with the instructor. Prerequisite: General studies literature or ENGL 234; admission by permission of instructor. |               |
| <b>ENGL 444 MAJOR AUTHOR</b>                                                                                                                                                                                                                                                                           | <b>3</b>      |
| Advanced study of the work of a major author or group of authors of English, American, and world literature. Specific authors to be studied vary from quarter to quarter. Offered odd years only.                                                                                                      |               |
| <b>ENGL 445 SHAKESPEARE</b>                                                                                                                                                                                                                                                                            | <b>3</b>      |
| Advanced study of selected plays and poems of Shakespeare. Offered even years only.                                                                                                                                                                                                                    |               |
| <b>ENGL 454 LITERATURE OF THE BIBLE (or RELB 454)</b>                                                                                                                                                                                                                                                  | <b>4</b>      |
| Study of biblical poetry and prose from a literary perspective. Prerequisites: General studies literature or ENGL 234. Will not be offered 1991-92.                                                                                                                                                    |               |
| <b>ENGL 455 CLASSICAL BACKGROUNDS</b>                                                                                                                                                                                                                                                                  | <b>4</b>      |
| Introduction to classical legend and thought as developed in major Greek, Roman, and medieval literary works. Intended as background for the study of Renaissance and modern literature and art. Prerequisites: General studies literature, ENGL 234 or ART 324, 325. Offered even years only.         |               |
| <b>ENGL 464 DEVELOPMENT OF ENGLISH DRAMA</b>                                                                                                                                                                                                                                                           | <b>3</b>      |
| Survey of the development of English drama from the medieval mystery plays to the twentieth century. Will not be offered 1991-92.                                                                                                                                                                      |               |

## ENGLISH

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>ENGL 465 DEVELOPMENT OF THE ENGLISH NOVEL</b>                                                                                                                                                                                                                        | 4    |
| Survey of major English novels from the eighteenth and nineteenth centuries, concentrating on the nineteenth century. Authors generally represented include Fielding, Smollett or Goldsmith, Scott, Austen, the Brontes, Dickens, Eliot, Hardy. Offered odd years only. |      |
| <b>ENGL 466 LITERARY AND CRITICAL THEORY</b>                                                                                                                                                                                                                            | 3    |
| Study of the theory and practice of literary criticism, surveying the classical sources and major critics up to the present. Will not be offered 1991-92.                                                                                                               |      |
| <b>ENGL 484 HISTORY OF THE ENGLISH LANGUAGE</b>                                                                                                                                                                                                                         | 3    |
| Study of premodern and early modern English, with reference to Indo-European antecedents. Intended to illuminate major trends in English language history. Offered odd years only.                                                                                      |      |
| <b>ENGL 485 LINGUISTICS</b>                                                                                                                                                                                                                                             | 3    |
| Survey of approaches to modern linguistic science, with emphasis on the materials and methods of descriptive linguistics in phonology, morphology, syntax and semantics. Offered even years only.                                                                       |      |
| <b>ENGL 496, 497 SEMINAR</b>                                                                                                                                                                                                                                            | 1, 2 |
| Required of English majors in the senior year. Includes studying research methods, giving oral reports, and writing a major scholarly paper. Research projects relate to a common topic chosen by the instructor.                                                       |      |

## ENGLISH EDUCATION (ENGL)

*The following courses do not apply toward an English major.*

|                                                                                                                                                                                                                                                                                                                    |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <b>ENGL 276 TEACHING ENGLISH AS A FOREIGN LANGUAGE</b>                                                                                                                                                                                                                                                             | 2 |
| Specialized approaches and materials useful for teaching oral and written English to speakers of other languages. Prerequisites: ENGL 121, 122, 123, or ENGL 141, 142, 143. Will not apply toward an English minor.                                                                                                |   |
| <b>ENGL 374 LITERATURE FOR CHILDREN (or LIBR 374)</b>                                                                                                                                                                                                                                                              | 3 |
| Study of literature for children from early childhood through elementary school. Emphasizes literary and artistic quality and appeal to children. Requires extensive reading of children's books and writing of critical analysis. Same as LIBR 374. Applies toward an English minor.                              |   |
| <b>ENGL 375 LITERATURE FOR YOUNG ADULTS (or LIBR 375)</b>                                                                                                                                                                                                                                                          | 3 |
| Study of literature appropriate for junior high and high school students. Emphasizes literary and artistic quality as well as theory of response to literature. Requires extensive reading of literature for young adults and writing of critical analysis. Same as LIBR 375. Applies toward an English minor.     |   |
| <b>ENGL 395 METHODS OF TEACHING HIGH SCHOOL ENGLISH</b>                                                                                                                                                                                                                                                            | 3 |
| A study of objectives for and methods of teaching language, composition, literature, drama, and media in grades seven through twelve. Students prepare and present lessons, evaluate student work, and create units of study. Prerequisites: ENGL 284; ENGL 329; ENGL 375. Will not apply toward an English minor. |   |

## GENERAL (ENGL)

|                                                                                                                                                                                                                                                                                                      |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <b>ENGL 494 COOPERATIVE EDUCATION</b>                                                                                                                                                                                                                                                                | 0 |
| Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in a work setting. Allows students to apply advanced classroom learning. Prerequisites: Permission of the department; CDEV 210 or permission of Cooperative Education Director. |   |

## HEALTH, PHYSICAL EDUCATION, AND RECREATION

Gary Hamburger, Chair; Curtis Kuhlman, Ralph Perrin, Tim Windemuth.

Walla Walla College is one of the church's pioneers in the field of health, physical education, and recreation. In 1949, this department was the first to graduate a physical education major from an Adventist institution. Since then its graduates have made significant contributions as teachers, researchers, youth leaders, and health educators.

The department offers a major in health science or physical education. These programs seek to develop the leadership and professional skills which will enable graduates to promote a healthy Christian lifestyle for others.

The program in health science helps prepare students to meet the increasing demands for health professionals trained in promoting wellness. Career opportunities for those with baccalaureate degrees in health are available in school health teaching, public health work, corporate health and fitness, and hospital or medical group health education.

The programs in physical education help prepare professionals who will promote activities that stimulate habits of regular exercise and develop skills and interests for participation throughout life. The curriculum contains three concentrations: Preparation for Teaching, Fitness Management and Physiological Basis of physical education.

### MAJOR IN HEALTH SCIENCE (Bachelor of Science)

A student majoring in health must complete 66 quarter hours of interdisciplinary courses as listed below, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

#### Major Requirements:

|          |                                          |         |
|----------|------------------------------------------|---------|
| HLSC 220 | Human Nutrition                          |         |
| HLSC 437 | Community Nutrition                      | 3       |
| HLSC 110 | Wellness for Living                      | 3       |
| HLSC 208 | Drugs and Society                        | 3       |
| HLSC 238 | Health Behavior Change                   | 2       |
| HLSC 331 | Consumer Health                          | 3       |
| HLSC 353 | Principles of Health                     | 3       |
| HLSC 372 | Health Promotion Planning and Evaluation | 3       |
| HLSC 472 | Stress Management                        | 3       |
| HLSC 475 | Programs in Health Promotion             | 3       |
| HLSC 481 | Internship in Health Science             | 3 or 12 |
| HLSC 491 | Seminar                                  | 1       |
| PETH 350 | Internship Placement Orientation         | 0       |
| PETH 427 | Fitness Evaluation Techniques            | 3       |
| PETH 426 | Physiology of Exercise                   | 4       |

## HEALTH, PHYSICAL EDUCATION AND RECREATION

|          |  |                                                                                       |          |
|----------|--|---------------------------------------------------------------------------------------|----------|
|          |  | Electives chosen from HLSC or the following<br>(approval of health adviser required): | 16 or 25 |
| ENVI 385 |  | Environment and Man                                                                   | 4        |
| MGMT 373 |  | Introduction to Health Care<br>Organizations                                          | 2        |
| PEAC 123 |  | Conditioning: Weight Training                                                         | 1        |
| PEAC 128 |  | Jogging                                                                               | 1        |
| PEAC 133 |  | Aerobic Rhythm                                                                        | 1        |
| PETH 225 |  | Prevention of Injuries                                                                | 2        |
| PETH 323 |  | Measurement and Evaluation                                                            | 3        |
| PETH 324 |  | Adapted Physical Education and<br>Recreation                                          | 3        |
| PETH 325 |  | Kinesiology                                                                           | 3        |
| PSYC 442 |  | Motivation                                                                            | 3        |
| PSYC 446 |  | Psychology of Personality                                                             | 3        |
| PSYC 464 |  | Counseling Relationships                                                              | 3        |
| OFAD 457 |  | Medical Terminology and<br>Transcription                                              | 3        |
| SOCI 324 |  | Human Development and The Family                                                      | 4        |
| SOCI 435 |  | Social Gerontology                                                                    | 3        |
| SOCI 437 |  | Death and Dying                                                                       | 3        |
| SOCI 447 |  | Sociology of Health and Illness                                                       | 3        |
| SOWK 377 |  | Introduction to Alcoholism and<br>Addiction Treatment                                 | 3        |
| SOWK 471 |  | Human Sexuality                                                                       | 3        |
|          |  |                                                                                       | 67       |

### Cognates:

|                     |                                  |                                                                 |   |
|---------------------|----------------------------------|-----------------------------------------------------------------|---|
| BIOL 201, 202<br>or | BIOL 101, 102,<br>BIOL 222<br>or | Anatomy and Physiology }<br>General Biology }<br>Microbiology } | 8 |
| BIOL 465            |                                  | Bacteriology }                                                  | 5 |
| MATH 106            |                                  | Applied Statistics                                              | 4 |
| MKTG 381<br>or      | MKTG 383                         | Marketing }<br>Advertising and Sales Promotion }                | 4 |
| PSYC 130            |                                  | General Psychology                                              | 4 |
| SPCH 101            |                                  | Fundamentals of Speech Communication                            | 4 |

## MAJOR IN PHYSICAL EDUCATION (Bachelor of Science)

A student majoring in physical education must complete the core requirements, one concentration, the required cognates for that concentration, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Students pursuing the concentration in preparation for teaching must also complete the certification requirements as listed in the Education section of this bulletin.

## HEALTH, PHYSICAL EDUCATION AND RECREATION

### Core Requirements:

|          |                                                   |          |
|----------|---------------------------------------------------|----------|
| PETH 214 | Introduction to Physical Education and Recreation | 2        |
| PETH 225 | Prevention of Injuries                            | 2        |
| PETH 323 | Measurements and Evaluation                       | 3        |
| PETH 324 | Adapted Physical Education and Recreation         | 3        |
| PETH 325 | Kinesiology                                       | 3        |
| PETH 425 | Motor Learning                                    | 3        |
| PETH 426 | Physiology of Exercise                            | 4        |
| PETH 484 | Administration of Health, PE & Recreation         | 3        |
| PETH 493 | History and Philosophy of Physical Education      | 3        |
| PETH 496 | Seminar                                           | 1        |
|          |                                                   | <hr/> 27 |

### CONCENTRATION: Preparation for Teaching

|                    |                                                                                                                                                                                                                            |          |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| PEAC 107-277       | Physical Activity Courses                                                                                                                                                                                                  | 15       |
|                    | Physical activity courses must be chosen in consultation with and approved by the academic adviser assigned by the department chair and must include PEAC 107, 123, 133, 224, 242, 244, 246, 271, 273, 274, 275, 276, 277. |          |
| PETH 261, 262, 263 | Officiating of Sports Activities                                                                                                                                                                                           | 6        |
| PETH 278           | Programming Intramural and Recreational Activities                                                                                                                                                                         | 2        |
| PETH 363, 364, 365 | Coaching of Team Activities                                                                                                                                                                                                | 9        |
| PETH 395           | Methods of Teaching Secondary Physical Education                                                                                                                                                                           | 3        |
| PETH 473           | Physical Education in the Elementary School                                                                                                                                                                                | 4        |
|                    | Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.                                                                                                       | <hr/> 39 |

### Cognates:

|                            |                                                     |   |
|----------------------------|-----------------------------------------------------|---|
| BIOL 201, 202              | Anatomy and Physiology                              | 8 |
| HLSC 110                   | Wellness for Living                                 | 3 |
| MATH 105<br>or<br>MATH 106 | Mathematics With Applications<br>Applied Statistics | 4 |

### CONCENTRATION: Fitness Management

|              |                                                                                                                                      |    |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------|----|
| HLSC 238     | Health Behavior Change                                                                                                               | 2  |
| PEAC 107-277 | Physical Activities Courses                                                                                                          | 3  |
|              | Physical activity courses must be chosen in consultation with and approved by the academic adviser assigned by the department chair. |    |
| PEAC 123     | Conditioning: Weight Training                                                                                                        | 1  |
| PEAC 128     | Jogging                                                                                                                              | 1  |
| PEAC 133     | Aerobic Rhythm                                                                                                                       | 1  |
| PEAC 151     | Racquetball I                                                                                                                        | 1  |
| PEAC 246     | Pro Act Tennis                                                                                                                       | 1  |
| PETH 205     | Water Safety Instructor's Course                                                                                                     | 2  |
| PETH 350     | Internship Placement Orientation                                                                                                     | 0  |
| PETH 427     | Fitness Evaluation Techniques                                                                                                        | 3  |
| PETH 490     | Internship in Fitness Management                                                                                                     | 12 |

## HEALTH, PHYSICAL EDUCATION AND RECREATION

|          |                                                                                                                      |    |
|----------|----------------------------------------------------------------------------------------------------------------------|----|
| PETH 278 | Programming Intramural and Recreational Activities                                                                   | 2  |
|          | Electives                                                                                                            | 4  |
|          | Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. | 33 |
|          |                                                                                                                      |    |

### Cognates:

|                                           |                                                                               |    |
|-------------------------------------------|-------------------------------------------------------------------------------|----|
| ACCT 201, 202, 203<br>or<br>ACCT 205, 206 | Principles of Accounting }<br>Principles of Accounting                        | 10 |
| BIOL 201, 202                             | Anatomy and Physiology                                                        | 8  |
| CPTR 105                                  | Personal Computing                                                            | 3  |
| HLSC 220                                  | Human Nutrition                                                               | 4  |
| HLSC 110                                  | Wellness for Living                                                           | 3  |
| MGMT 275                                  | Management of Small Business                                                  | 3  |
| MIS 186<br>or<br>MIS 187                  | Intermediate Database Applications }<br>Intermediate Spreadsheet Applications | 2  |
| MKTG 383                                  | Advertising and Sales Promotion                                               | 4  |

### CONCENTRATION: Physiological Basis

|                                                                                                                                      |                               |    |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----|
| BIOL 201, 202                                                                                                                        | Anatomy and Physiology        | 8  |
| BIOL 464                                                                                                                             | Animal Physiology             | 4  |
| HLSC 220                                                                                                                             | Human Nutrition               | 4  |
| PEAC 107-277                                                                                                                         | Physical Activity Courses     | 5  |
| Physical activity classes must be chosen in consultation with and approved by the academic adviser assigned by the department chair. |                               |    |
| PETH 427                                                                                                                             | Fitness Evaluation Techniques | 3  |
|                                                                                                                                      | Electives                     | 3  |
| Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.                 |                               | 27 |

### Cognates:

|                                      |                                                     |    |
|--------------------------------------|-----------------------------------------------------|----|
| BIOL 101, 102, 103<br>or<br>CHEM 431 | General Biology<br>Cell Biology }<br>Biochemistry } | 12 |
| CHEM 433                             | Biochemistry Laboratory Methods                     | 3  |
| BIOL 250<br>or<br>PSYC 350           | Biostatistics }<br>Elementary Statistics }          | 4  |
| CHEM 141, 142, 143                   | General Chemistry                                   | 9  |
| CHEM 144, 145, 146                   | General Chemistry Laboratory                        | 3  |
| CHEM 321, 322, 323                   | Organic Chemistry                                   | 9  |
| CHEM 324, 325, 326                   | Microscale Organic Laboratory                       | 3  |
| CPTR 105                             | Personal Computing                                  | 3  |
| HLSC 110                             | Wellness for Living                                 | 3  |

## HEALTH, PHYSICAL EDUCATION AND RECREATION

|                                 |                                                  |   |     |
|---------------------------------|--------------------------------------------------|---|-----|
| MATH 117<br>or<br>MATH 121, 122 | Precalculus<br>Fundamentals of Mathematics I, II | } | 5-8 |
|                                 |                                                  |   |     |

### MINOR IN HEALTH

A student minoring in health must complete 27 quarter hours.

|          |                      |           |
|----------|----------------------|-----------|
| HLSC 110 | Wellness for Living  | 3         |
| HLSC 353 | Principles of Health | 3         |
|          | Electives            | <u>21</u> |
|          |                      | 27        |

Up to 10 hours may be selected from non-HLSC courses in the major requirements or electives listed for the Health Science major with no more than six hours being selected from any one discipline.

Approval of health adviser required.

### MINOR IN PHYSICAL EDUCATION

A student minoring in physical education must complete 30 quarter hours:

|          |                                                                 |           |
|----------|-----------------------------------------------------------------|-----------|
| PETH 214 | Introduction to Physical Education<br>and Recreation            | 2         |
| PETH 225 | Prevention of Injuries                                          | 2         |
| PETH 261 | Officiating of Sports Activities                                | 2         |
| PETH 278 | Programming Intramural and<br>Recreational Activities           | 2         |
| PETH 484 | Administration of Health, Physical<br>Education, and Recreation | 3         |
|          | Electives                                                       | <u>19</u> |
|          |                                                                 | 30        |

Approval of physical education adviser required.

### HEALTH SCIENCE (HLSC)

#### HLSC 110 WELLNESS FOR LIVING

3

Survey course covering current health issues; emphasizes the promotion of personal well-being.

#### HLSC 208 DRUGS AND SOCIETY

3

Study of the use, misuse, and abuse of all classes of drugs, including alcohol and tobacco. Emphasis will be placed on the physiological, sociological, and psychological factors which may lead to drug experimentation and heavy drug use. Prerequisite: BIOL 201, 202 or permission of the instructor.

#### HLSC 217 FIRST AID

2

Preparation for earning Standard American Red Cross and Cardiopulmonary Resuscitation certificates; prepares the student to deal effectively with minor emergencies, sudden illness, and traumatic injuries. Lecture and laboratory.

#### HLSC 220 HUMAN NUTRITION

4

Study of fundamental principles and basic vocabulary of nutritional science; interpretation and application of those principles through practical experiences. Covers the many factors associated with food and the digestion of food and the evaluation of current nutrition controversies.

#### HLSC 238 HEALTH BEHAVIOR CHANGE

2

Study of behavioral change in health practices; includes use of group processes and basic behavioral science concepts, relating them to learning and motivation in the health field.

#### HLSC 266 SAFETY EDUCATION

2

Study of safety at work, home, and school with emphasis on personal and community responsibility. Offered odd years only.

## HEALTH, PHYSICAL EDUCATION AND RECREATION

HLSC 110 or permission of instructor is a prerequisite to all upper division health science courses.

### HLSC 308 COMMUNITY HEALTH EDUCATION

3

Study of the historical development of community health, including the role of different health agencies in the community. Emphasizes the prevention of disease and health promotion through organized community effort. Offered odd years only.

### HLSC 328 BASIC THERAPY

2

Study of simple, nondrug therapeutic health practices; includes legal implications. Offered even years only.

### HLSC 331 CONSUMER HEALTH

3

Study of advertising techniques and claims concerning a variety of health care products. Analysis will also be made of quackery, various health care services, and the role of the FDA, FTC, and other governmental agencies in protecting the consumer. Offered odd years only.

### HLSC 350 INTERNSHIP PLACEMENT ORIENTATION

0

An internship placement orientation seminar intended to make students aware of agency possibilities, application and evaluation procedures, contracts and the internship learning process. Required of all juniors.

### HLSC 353 PRINCIPLES OF HEALTH

3

Study of the relationship of basic health principles to lifestyles and diseases of ancient and contemporary civilizations. Examines the Mosaic health code, levitical laws, and other biblical health principles. Emphasis is placed on certain lifestyle diseases and risk reduction.

### HLSC 372 HEALTH PROMOTION PLANNING AND EVALUATION

3

Study of methods of determining health needs, organizing community service skills, planning techniques, and program evaluation. Laboratory required. Prerequisite: HLSC 353.

### HLSC 384 SCHOOL HEALTH PROGRAMS

3

Analysis of the philosophical, organizational, and legal aspects of school health programs. Offered even years only.

### HLSC 395 METHODS OF SCHOOL HEALTH INSTRUCTION

3

Concepts of unit planning, methods, techniques, sources, and evaluation of instruction materials; students are required to read widely and collect material pertinent to the course.

### HLSC 427 FITNESS EVALUATION TECHNIQUES

3

The primary focus is to develop and enhance the knowledge and practical skills in health and fitness evaluation. Specific emphasis will be directed toward evaluation techniques of exercise, physiology, nutrition, weight control, exercise programming, health appraisal and fitness, lecture and laboratory. Preparation for meeting ACSM Health/Fitness Instructor Certification. Prerequisites: BIOL 201, 202, PETH 426 or permission of instructor. Offered even years only.

### HLSC 437 COMMUNITY NUTRITION

3

Survey of current community nutritiion problems and of programs designed to alleviate the problems; food habits of poopulation groups which have a high incidence of malnutrition; implications of fad diets. Field experience included. Prerequisite: HLSC 220 or permission of instructor. Offered even years only.

### HLSC 472 STRESS MANAGEMENT

3

Designed to guide the student in planning practical strategies for personal stress management. A holistic approach emphasizing physical, mental, emotional, and spiritual aspects of a positive Christian lifestyle. The works of Hans Selye and other theoreticians of modern stress management are considered. Students will develop skills in time management, and techniques of meditation and relaxation and exercise. Also considered is the market for stress management education in Employee Assistance Programs. Prerequisite: PSYC 130 or SOCI 204.

### HLSC 475 PROGRAMS IN HEALTH PROMOTION

3

Study of the methods of program production in health. Supervised experience in the implementation of health education programs within churches, industries, schools, or hospitals of the community. Laboratory required. Prerequisite: HLSC 372.

## HEALTH, PHYSICAL EDUCATION AND RECREATION

**HLSC 481 INTERNSHIP IN HEALTH SCIENCE** 3 or 12  
Supervised field experience in an approved health care agency. Practical experience and application of responsibilities and competencies necessary for practicing health education. Prerequisites: HLSC 350, HLSC 475, HLSC 217 or current certification in First Aid and CPR, HLSC 427.

**HLSC 491 SEMINAR** 1  
Presentation and discussion of current topics in health science. Prerequisite: Senior standing in Health Science or permission of the instructor.

**HLSC 494 COOPERATIVE EDUCATION** 0-4  
Individual contract arrangement involving students, faculty and cooperating businesses, schools or agencies to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department; CDEV 210 or permission of Cooperative Education Director.

### PHYSICAL ACTIVITY COURSES (PEAC)

**PEAC 101-197 PHYSICAL ACTIVITIES EDUCATION ACTIVITY COURSES** 1  
Motor skills are physiological development; adaptive programs as needed.

|                                |                                |
|--------------------------------|--------------------------------|
| PEAC 107 Lifeguard Training    | PEAC 151 Racquetball I         |
| *PEAC 110 Scuba I              | PEAC 152 Racquetball II        |
| *PEAC 111 Scuba II             | *PEAC 157 Backpacking          |
| PEAC 113 Beginning Swimming    | *PEAC 159 Cycling              |
| PEAC 114 Intermediate Swimming | *PEAC 163 Rock Climbing        |
| *PEAC 119 Sailboarding         | †*PEAC 164 Downhill Skiing I   |
| PEAC 123 Cond. Weight Training | †*PEAC 165 Downhill Skiing II  |
| PEAC 127 Tumbling              | PEAC 171 Basketball            |
| PEAC 128 Jogging               | PEAC 173 Flagball              |
| PEAC 133 Aerobic Rhythm        | PEAC 174 Soccer                |
| †*PEAC 136 Ice Skating I       | PEAC 175 Softball              |
| †*PEAC 137 Ice Skating II      | PEAC 176 Track and Field       |
| PEAC 142 Badminton I           | PEAC 177 Volleyball I          |
| *PEAC 144 Golf I               | PEAC 181 Fencing I             |
| *PEAC 145 Golf II              | †PEAC 190 Independent Activity |
| PEAC 146 Tennis I              | PEAC 195 Gymnastics Team       |
| PEAC 147 Tennis II             |                                |

### PROFESSIONAL ACTIVITIES (Individual)

|                               |                                  |
|-------------------------------|----------------------------------|
| PEAC 223 Pro Act Conditioning | *PEAC 244 Pro Act Golf           |
| PEAC 224 Pro Act Gymnastics I | PEAC 246 Pro Act Tennis          |
| PEAC 242 Pro Act Badminton I  | PEAC 276 Pro Act Track and Field |

### PROFESSIONAL ACTIVITIES (Team)

|                             |                             |
|-----------------------------|-----------------------------|
| PEAC 271 Pro Act Basketball | PEAC 275 Pro Act Softball   |
| PEAC 273 Pro Act Flagball   | PEAC 277 Pro Act Volleyball |
| PEAC 274 Pro Act Soccer     |                             |

\*Special fee required. See Financial Information  
†Graded S or NC.

### PHYSICAL EDUCATION THEORY (PETH)

**PETH 205 WATER SAFETY INSTRUCTOR'S COURSE** 2  
Preparation for meeting the requirements of the National Red Cross Certificate to teach swimming and supervise swimming areas. Prerequisite: PEAC 107.

## HEALTH, PHYSICAL EDUCATION AND RECREATION

### PETH 214 INTRODUCTION TO PHYSICAL EDUCATION AND RECREATION

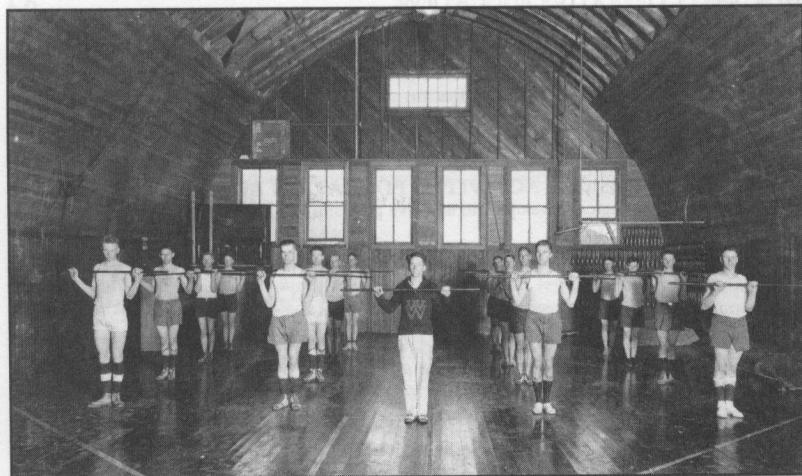
2

Introduction and orientation to the field of physical education; includes survey of the philosophy and objectives, as well as the professional opportunities and responsibilities, of the physical educator.

### PETH 225 PREVENTION OF INJURIES

2

Methods of prevention, evaluation, recognition, and immediate care and rehabilitation of injuries. Lecture and laboratory.



*The wand drill, Gym II Class, in the old gymnasium built 1917*

### PETH 261, 262, 263 OFFICIATING OF SPORTS ACTIVITIES

2, 2, 2

Introduction to officiating in a variety of activities covered in the service areas; students are required to officiate in the intramural activities sponsored by the department. Lecture and laboratory.

### PETH 268 SKI INSTRUCTOR'S COURSE

2

Introduction for the advanced skiing student to the methods and skills of skiing instruction; students are required to assist in ski classes. Lecture and laboratory.

### PETH 278 PROGRAMMING INTRAMURAL AND RECREATIONAL ACTIVITIES

2

Study of the mechanics of programming the intramural and recreational activities in the school and community.

### PETH 323 MEASUREMENTS AND EVALUATION

3

Study of the tests used in health, physical education, and recreation; includes application of tests in the evaluation process of motor performance and other areas of physical fitness. Two lectures per week. Laboratory arranged. Prerequisite: MATH 105 or 106.

### PETH 324 ADAPTED PHYSICAL EDUCATION AND RECREATION

3

Study of common abnormalities found in students which may be corrected or helped by proper exercise; considers extent and limitations of the teacher's responsibility in this phase of education. Lecture and laboratory.

### PETH 325 KINESIOLOGY

3

Study of joint and muscular mechanism action of muscles involved in fundamental movements; effect of gravity and other forces on motion. Lecture and laboratory. Prerequisites: BIOL 201, 202; PETH 323.

## HEALTH, PHYSICAL EDUCATION AND RECREATION

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>PETH 363, 364, 365 COACHING OF TEAM ACTIVITIES</b>                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>3, 3, 3</b> |
| Study of materials, methods, strategy and teaching professions; autumn, flagball and gymastics; winter, basketball and volleyball; spring, track and field and softball. Two lectures and one laboratory per week.                                                                                                                                                                                                                                                                  |                |
| <b>PETH 395 METHODS OF TEACHING SECONDARY PHYSICAL EDUCATION</b>                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>3</b>       |
| Study of the methods and techniques of teaching physical education in the secondary school, indoors and outdoors; includes individual as well as group activities; students are required to observe and demonstrate in class. Lecture and laboratory. Offered even years only.                                                                                                                                                                                                      |                |
| <b>PETH 425 MOTOR LEARNING</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>3</b>       |
| Analysis of selected variables which influence the learning of motor skills. Lecture and laboratory. Prerequisite: PETH 323.                                                                                                                                                                                                                                                                                                                                                        |                |
| <b>PETH 426 PHYSIOLOGY OF EXERCISE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>4</b>       |
| Study of the physiological basis for motor fitness, factors limiting human performance in athletic competition, pertinent research from the sports medicine literature, and laboratory techniques used in analysis of motor fitness. Lecture and laboratory. Prerequisites: BIOL 201, 202; PETH 323 or permission of instructor.                                                                                                                                                    |                |
| <b>PETH 427 FITNESS EVALUATION TECHNIQUES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>3</b>       |
| The primary focus is to develop and enhance the knowledge and practical skills in health and fitness evaluation. Specific emphasis will be directed toward evaluation techniques of exercise, physiology, nutrition, weight control, exercise programming, health appraisal and fitness, lecture and laboratory. Preparation for meeting ACSM Health/Fitness Instructor Certification. Prerequisites: BIOL 201, 202, PETH 426 or permission of instructor. Offered even years only. |                |
| <b>PETH 473 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL</b>                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>3 or 4</b>  |
| Introduction to the planning of the curriculum in the elementary school and the organization of a balanced activities program; requires participation in the elementary school physical education program.                                                                                                                                                                                                                                                                          |                |
| <b>PETH 479 DIRECTED RESEARCH/PROJECT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>1-3; 6</b>  |
| Additional research or study carried out under the direction of an assigned faculty member.                                                                                                                                                                                                                                                                                                                                                                                         |                |
| <b>PETH 484 ADMINISTRATION OF HEALTH, PHYSICAL EDUCATION, AND RECREATION</b>                                                                                                                                                                                                                                                                                                                                                                                                        | <b>3</b>       |
| Study of the techniques of scheduling, organizing, and planning suitable activities; includes purchasing of supplies and equipment, planning and use of facilities, and comparative cost and budgeting for the entire health and physical education program; related to either the elementary or secondary school depending on the need of the student.                                                                                                                             |                |
| <b>PETH 490 INTERNSHIP IN FITNESS MANAGEMENT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>12</b>      |
| Supervised field experience in an approved fitness agency. Practical experience and application of responsibilities necessary for practicing fitness management. Prerequisite: Senior standing or departmental approval.                                                                                                                                                                                                                                                            |                |
| <b>PETH 493 HISTORY AND PHILOSOPHY OF PHYSICAL EDUCATION</b>                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>3</b>       |
| Study of Physical Education and Recreation from earliest times to the present. Emphasis on the social and religious conditions which determine the character of physical education in a given society. Offered odd years only.                                                                                                                                                                                                                                                      |                |
| <b>PETH 494 COOPERATIVE EDUCATION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>0-4</b>     |
| Individual contract arrangement involving students, faculty, and cooperating businesses, schools or agencies to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department; CDEV 210 or permission of Cooperative Education Director.                                                                                                                                                        |                |
| <b>PETH 496 SEMINAR</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>1</b>       |
| Study of the modern trends in physical and recreational education; group discussion and presentation of current material in the field. Prerequisite: senior standing.                                                                                                                                                                                                                                                                                                               |                |

## HISTORY AND POLITICAL SCIENCE

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Roland Blaich, Chair; Terrie Aamodt, Terrell Gottschall, Robert Henderson.

The department offers a major in history as well as minors in history and political science. In fulfilling the mission of the college, the purpose of the work in history is fourfold: to promote a better understanding of the past and an appreciation of the present; to broaden the cultural outlook and formulate a constructive philosophy of history of life; to train in skills of research and evaluation; to prepare students for teaching, graduate and professional schools, and government service. In keeping with this goal, the members of the department support the principle of personal professional development, particularly participation in research and civic responsibilities, as a means of enhancing both teaching and the historical profession.

The objectives of the courses in political science are to present techniques and materials with which to analyze governmental systems, diplomacy and international relations, and theories of political power. Students are prepared for further study in teaching, law, government, and church service.

### MAJOR IN HISTORY (Bachelor of Arts)

A student majoring in history must complete 54/57 quarter hours in the major, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general and subject (History) sections.

#### Core Requirements:

|                    |                                                                                                                                                                                        |    |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| HIST 120, 121, 122 | History of Western Civilization                                                                                                                                                        | 12 |
|                    | (HONR 131, 132, 133 will fulfill the Western Civilization requirement)                                                                                                                 |    |
| HIST 221, 222      | History of the United States                                                                                                                                                           | 8  |
| HIST 397           | Historiography                                                                                                                                                                         | 4  |
|                    | Electives (20 must be upper division)                                                                                                                                                  | 26 |
|                    |                                                                                                                                                                                        |    |
|                    | 8 quarter hours must be European; 8 quarter hours must be American; electives to be chosen in consultation with and approved by the academic adviser assigned by the department chair. | 50 |

#### Research Requirements:

Students planning to attend graduate school should take the thesis track.

|                    |                                     |     |
|--------------------|-------------------------------------|-----|
| HIST 396           | Introduction to Historical Research | 1   |
| HIST 496, 497      | Seminar                             | 3   |
| or                 |                                     |     |
| HIST 398, 498, 499 | Thesis Seminar (thesis track)       | 6   |
|                    |                                     | 4-7 |

### MINOR IN HISTORY

A student minoring in history must complete 28 quarter hours:

|                    |                                                                        |      |
|--------------------|------------------------------------------------------------------------|------|
| HIST 120, 121, 122 | History of Western Civilization                                        | 8-12 |
|                    | (HONR 131, 132, 133 will fulfill the Western Civilization requirement) |      |
| HIST 221, 222      | History of the United States                                           | 8    |
|                    | Electives (4 must be upper division)                                   | 8-12 |
|                    |                                                                        | 28   |

Approval of history adviser required.

**MINOR IN POLITICAL SCIENCE**

A student minoring in political science must complete 28 quarter hours:

Electives (4 must be upper division) 28

Approval of political science adviser required.

**GEOGRAPHY (GEOG)****GEOG 258 WORLD GEOGRAPHY** 4

Survey of the major groups of natural regions; emphasizes human geography, but gives adequate attention to economic and physical aspects. Will not apply to a history minor. Will not be offered 1991-92.

**GENERAL****HIST 120, 121, 122 HISTORY OF WESTERN CIVILIZATION** 4, 4, 4

Survey of European history from antiquity to the present. The first quarter covers ancient history of the Near East to early medieval Europe in the eighth century AD; the second quarter, old Europe from Charlemagne to 1815; and the third quarter, modern Europe from 1815 to the present.

**HIST 131, 132, 133 WESTERN THOUGHT I (HONORS)** 4, 4, 4

See the General Studies Honors section of this Bulletin.

**HIST 221, 222 HISTORY OF THE UNITED STATES** 4

Survey of the colonial period, followed by a more detailed study of the national period.

**HIST 242 MODERN EAST ASIAN HISTORY** 4

A study of East Asian History since 1800, with particular emphasis on China and Japan.

**HIST 321 CONTEMPORARY ISSUES, (or PLSC 321)** 2; 4

A study of selected contemporary issues reflecting current trends in politics and international relations, global and regional problems, and social and ethical issues. May be repeated for credit. Will apply towards General Studies.

**HIST 335 HISTORY OF WORLD WAR II** 4

Study of the military, political, and diplomatic events from the late 1930s through 1945; covers both the European and the Pacific theaters. Offered odd years only.

**HIST 394 DIRECTED READING** 1-3

Independent reading for students who wish to continue broadening their knowledge of history by extensive reading; admission by department approval. Prerequisite: Eight hours of general studies history.

**HIST 395 METHODS OF TEACHING SOCIAL STUDIES** 3

Methods and techniques of teaching social studies on the secondary school level; requires observation, demonstration and class presentation. Will not apply towards a major or minor in history or political science.

**HIST 490 ARCHAEOLOGICAL FIELDWORK** 0-4

Participation in an archaeological expedition. Involves all aspects of dig life — stratigraphic excavation employing the most up-to-date methodologies, careful recording and analysis of data in consultation with experts from a wide range of disciplines. Prerequisites: RELH 205 or permission of instructor. Application to the School of Theology is required by March 1 of the year the course is taken. May serve as history elective. Will not apply towards general studies in history.

**HIST 494 COOPERATIVE EDUCATION** 0-4

Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisites: Approval by department; CDEV 210 or permission of Cooperative Education Director.

## HISTORY AND POLITICAL SCIENCE

### HIST 496, 497 SEMINAR

1, 2

Preparation of the senior thesis or seminar paper. Open only to senior history majors and thesis track majors. Prerequisites: HIST 396, 398. The thesis title will be included on the student's transcript.

### RESEARCH

Students who elect to take the thesis track should complete their language requirement before the junior year.

### HIST 396 INTRODUCTION TO HISTORICAL RESEARCH

1

Introduction to the methods, materials, and problems of historical research; students choose the topic for their senior papers and commence research.

### HIST 397 HISTORIOGRAPHY

4

A survey of historians and historical writings from classical Greece to the present. Must be taken concurrently with HIST 396.

### HIST 398 THESIS RESEARCH

1; 3

Research for the Thesis Seminar. To be usually taken Winter and Spring during the junior year, and Autumn during the senior year. May be repeated for credit.

### HIST 496, 497 SEMINAR

1, 2

Preparation of the senior thesis or seminar paper. Open only to senior history majors and thesis track majors. Prerequisites: HIST 396, 398. The thesis title will be included on the student's transcript.

## EUROPEAN HISTORY (HIST)

### HIST 274, 275 HISTORY OF ENGLAND

4, 4

Development and expansion of the English nation from the earliest times to the present.

### HIST 375 HISTORY OF MODERN RUSSIA

4

19th and 20th century Russia with an emphasis on social, political and intellectual developments. Offered odd years only.

### HIST 435 HISTORY OF MODERN GERMANY

4

Survey of German history since 1870; diplomatic, political, socio-economic, and ideological developments in Imperial, Weimar, Nazi, and post-World War II Germany, with special emphasis on the German Question resulting from World War II. Prerequisites: HIST 121, 122, or permission of instructor. Offered even years only.

### HIST 456 MEDIEVAL AND MODERN CHURCH HISTORY (or RELH 456)

4

A survey of the Christian Church from the Council of Chalcedon to the Enlightenment. Prerequisite: HIST 121 or RELH 455, or permission of instructor.

### HIST 463 THE MIDDLE AGES

4

Survey of the main institutions and ideas in European civilization from the decline of the Roman Empire to the Italian Renaissance, 300-1500. Prerequisites: HIST 120, 121, or permission of instructor. Offered even years only.

### HIST 465 RENAISSANCE AND REFORMATION

4

Study of the transformation of Europe from a medieval to a modern society, 1300-1648, with special emphasis on the artistic, intellectual, and religious developments. Prerequisite: HIST 121, or permission of instructor. Offered odd years only.

### HIST 466 ENLIGHTENMENT AND REVOLUTION

4

Study of the influence of the Enlightenment on the French Revolution and the Napoleonic Imperium. Prerequisite: HIST 121. Offered even years only.

### HIST 467 THE MODERN TRANSITION, 1815-1919

4

Study of Europe against the backdrop of nineteenth century nationalism and imperialism. Prerequisites: HIST 121, 122. Offered even years only.

**HIST 468 CONTEMPORARY EUROPE, 1918 TO THE PRESENT** 4  
 Study of Europe from World War I to the present with particular emphasis on the period since 1945. Prerequisite: HIST 122, or permission of instructor. Offered even years only.

**AMERICAN HISTORY (HIST)**

**HIST 284, 285 HISTORY OF LATIN AMERICA** 4, 4  
 Survey of the colonial period, followed by a more detailed study of the development of the individual Latin American nations and their world relationship. Will not be offered 91-92.

**HIST 424 THE AMERICAN FRONTIER** 4  
 Study of the exploration, settlement, and development of the American west; considers economic, social, cultural, and political factors. Offered even years only.

**HIST 443 COLONIAL AND REVOLUTIONARY AMERICA** 4  
 Study of the American colonies in their religious, social, and political contexts; examines the transition from colonial status to independence. Prerequisite: HIST 221, or permission of instructor. Offered odd years only.

**HIST 445 THE CIVIL WAR AND THE RISE OF INDUSTRIAL AMERICA, 1850-1900** 4  
 Study of the sectional crisis, the war, and its impact on postwar political, economic, and social development. Prerequisites: HIST 221, 222, or permission of instructor. Offered even years only.

**HIST 446 HISTORY OF THE PACIFIC NORTHWEST** 4  
 Study of the Pacific Northwest from the age of discovery to contemporary times.

**HIST 448 TWENTIETH CENTURY AMERICA** 4  
 Study of maturing America from 1900 to the present; emphasizes the problems of prosperity and depression and the role of the United States in world affairs. Prerequisites: HIST 221, 222, or permission of instructor. Offered even years only.

**HIST 457 SOCIAL AND INTELLECTUAL HISTORY OF THE UNITED STATES** 4  
 Analysis of the major social and intellectual trends in United States history, including Puritanism, the Enlightenment, Transcendentalism, Social Darwinism, and Pragmatism. Prerequisites: HIST 221, 222. Offered odd years only.



*Laying the first cement walk in front of the Administration building*

## HISTORY AND POLITICAL SCIENCE

### POLITICAL SCIENCE (PLSC)

#### PLSC 224 AMERICAN GOVERNMENT

4

Study of the principles, organization, and development of American national, state, and local government.

#### PLSC 321 CONTEMPORARY ISSUES (or HIST 321)

4

See the History section of this Bulletin.

#### PLSC 324 COMPARATIVE GOVERNMENT

4

Comparative study of political institutions, ideologies, and processes in modern and developing areas; includes intensive analytical and critical study of theories of authority; emphasizes problems of values in communist, fascist, Catholic, socialist, and democratic political theories. Offered even years only.

#### PLSC 426 AMERICAN POLITICAL THOUGHT

4

Study of the genesis and development of political thought in the United States. Applies to history as well as political science. Prerequisite: HIST 221. Offered even years only.

#### PLSC 427 AMERICAN DIPLOMATIC HISTORY

4

Study of the relation of the United States to world politics; analysis of problems involved in the formulation of foreign policies from colonial times to the present. Applies to history as well as political science. Offered odd years only.

#### PLSC 434 INTERNATIONAL RELATIONS

4

Analysis of the nature of international society and of the motivating and conditioning factors which explain interaction among states and other international entities. Prerequisite: HIST 122, or permission of instructor. Offered odd years only.

#### PLSC 451 RESEARCH METHODS (or MKTG 451, SOCI 451)

4

Introduction to the principles of research design; data collection through surveys and other methods; scaling, sampling; and computer assisted statistical analysis. Statistics highly recommended prerequisite. One laboratory per week.

#### PLSC 454 WESTERN POLITICAL AND SOCIAL THOUGHT

4

A survey of political and social thought from classical Greece to the Enlightenment. May also apply to history. Prerequisites: HIST 120, 121, or HIST 131, 132, or permission of instructor. Same as PHIL 454; SOCI 454. Offered odd years only.

#### PLSC 455 WESTERN POLITICAL AND SOCIAL THEORY

4

Survey of modern social, political and economic thought. Emphasizes 19th and 20th century theories and models which have directed contemporary research in the social sciences and have influenced public policy. Same as SOCI 455. Will not be offered 1991-92.

#### PLSC 475 CONSTITUTIONAL HISTORY

4

Study of the theory and practice of constitutional government in the United States including formation of the constitution, federal court system, and separation of powers. May apply in history as well as in political science. Prerequisite: PLSC 224, or permission of instructor. Consult the department chair. Will not be offered 91-92.

## HOME ECONOMICS

This department closed at the end of 1990-91 academic year. Students who are completing majors in Home Economics or Interiors and Apparel Marketing and Management or minors in Home Economics or Interior Design should consult with Betty Duncan, who is advising students in these areas. No new students are being accepted into these programs.



Fish pond, 1930 class gift, old gymnasium in the background

## INTERDISCIPLINARY PROGRAMS

### BIOPHYSICS

Claude Barnett (Physics), Don Rigby (Biology), Academic Advisers.

The biophysics major is offered cooperatively by the departments of biology and physics. For entrance, 30 semester periods of secondary mathematics chosen from algebra, plane and solid geometry, and trigonometry are required.

#### MAJOR IN BIOPHYSICS (Bachelor of Science)

A student majoring in biophysics must complete 33 quarter hours in biology and 36 quarter hours in physics, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Graduate Record Examinations in physics and biology (general and subject portions) are required. One summer term at the Marine Station is required.

##### Biology Requirements:

|                                                                   |               |                              |       |
|-------------------------------------------------------------------|---------------|------------------------------|-------|
| BIOL                                                              | 101, 102, 103 | General Biology              | 12    |
| BIOL                                                              | 251           | Research Methods I           | 1     |
| BIOL                                                              | 352, 353, 354 | Research Methods II, III, IV | 3     |
| BIOL                                                              | 392           | Cell Biology                 | 4     |
| BIOL                                                              | 393           | Genetics                     |       |
| or                                                                |               |                              |       |
| BIOL                                                              | 394           | Developmental Biology        | 4     |
| BIOL                                                              | 401           | Plant Physiology             |       |
| or                                                                |               |                              |       |
| BIOL                                                              | 464           | Animal Physiology            | 4     |
| BIOL                                                              | 446           | General Ecology              | 4     |
| BIOL                                                              | 455           | Research Methods V           | 1     |
| BIOL                                                              | 495           | Colloquium*                  | 0     |
| *Required each quarter of juniors and seniors while in residence. |               |                              | 33-34 |

##### Physics Requirements:

|      |               |                                  |    |
|------|---------------|----------------------------------|----|
| PHYS | 114           | Perspectives in Physics          | 1  |
| PHYS | 115, 116      | Introduction to Experimentation  | 2  |
| PHYS | 251, 252, 253 | Principles of Physics            | 9  |
| PHYS | 254, 255, 256 | Principles of Physics Laboratory | 3  |
| PHYS | 311           | Modern Physics                   | 3  |
| PHYS | 313           | Thermodynamics                   | 4  |
| PHYS | 314           | Modern Physics Laboratory        | 1  |
| PHYS | 316           | Optics Laboratory                | 1  |
| PHYS | 317, 318, 319 | Physics Seminar I                | 3  |
| PHYS | 321, 322      | Optics                           | 6  |
| PHYS | 417, 418, 419 | Physics Seminar II               | 3  |
|      |               |                                  | 36 |

##### Cognates:

|      |               |                              |   |
|------|---------------|------------------------------|---|
| CHEM | 141, 142, 143 | General Chemistry            | 9 |
| CHEM | 144, 145, 146 | General Chemistry Laboratory | 3 |

|                                                                                    |                                      |     |
|------------------------------------------------------------------------------------|--------------------------------------|-----|
| CHEM 321, 322, 323                                                                 | Organic Chemistry                    | 12  |
| CHEM 324, 325, 326<br>or<br>CHEM 351, 352, 353                                     | Microscale Organic Laboratory        |     |
| CHEM 354, 355, 356                                                                 | Physical Chemistry                   |     |
| CPTR 141                                                                           | Physical Chemistry Laboratory        |     |
| CPTR 374                                                                           | Introduction to Programming (Pascal) | 4   |
| ENGR 228<br>and<br>ENGR 325<br>or<br>ENGR 228<br>and<br>CPTR 331<br>or<br>BIOL 470 | Simulation and Modeling              | 3   |
| MATH 181, 281-283                                                                  | Circuit Analysis                     |     |
| MATH 315                                                                           | Instrumentation                      |     |
|                                                                                    | Circuit Analysis                     | 5-7 |
|                                                                                    | Computers in the Laboratory          |     |
|                                                                                    | Marine Biophysics                    |     |
|                                                                                    | Analytic Geometry and Calculus I-IV  | 16  |
|                                                                                    | Probability and Statistics           | 4   |

## HUMANITIES

Ron Jolliffe, Chair, Beverly Beem (English), Reinhard Czeratzki (Modern Languages), Roland Blaich (History), Dan Shultz (Music), Douglas Clark (Religion), Thomas Emmerson (Art) Donnie Rigby (Comm).

The humanities major is an interdisciplinary program designed for those who want to study the themes and values of the humanities—in history, the visual arts, music, philosophy and literature—and who wish to tailor their major to meet their interests. It provides a choice of content areas for those interested in teaching at the college or secondary levels and an excellent second major for those wanting to teach in elementary school. The humanities major also is excellent for preprofessional students, especially those planning to study business, medicine, or law.

### MAJOR IN HUMANITIES (Bachelor of Arts)

A student majoring in humanities must complete the core requirements, the required cognates, one concentration which must be chosen in consultation with the humanities adviser and the chair of the specific area, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

#### Core Requirements:

|                    |                                           |    |
|--------------------|-------------------------------------------|----|
| ART 251            | Introduction to Art                       | 4  |
| ENGL 207           | World Literature                          |    |
| ENGL 210, 211, 212 | Survey of English and American Literature | 8  |
| ENGL               | One upper-division literature course      | 4  |
| HIST 120, 121, 122 | History of Western Civilization           | 8  |
| HIST 465           | Renaissance and Reformation               | 4  |
| HMNT 496           | Seminar in Humanities                     | 3  |
| MUHL 124           | Introduction to Music                     | 4  |
| PHIL 205           | Introduction to Philosophy                | 4  |
|                    |                                           | 39 |

## INTERDISCIPLINARY PROGRAMS

### Cognates:

|           |                                      |     |
|-----------|--------------------------------------|-----|
| ANTH 225  | Cultural Anthropology                | 3-4 |
| or        | Western Political and Social Thought |     |
| *PLSC 454 | Philosophy of Science                | 4   |
| BIOL 407  | Environment and Man                  |     |
| or        | Social Psychology                    | 3   |
| ENVI 385  | Psychology of Personality            |     |
| PSYC 444  | World Religions                      | 3-4 |
| or        | Philosophy of Religion               |     |
| PSYC 446  |                                      |     |
| RELH 403  |                                      |     |
| or        |                                      |     |
| RELT 412  |                                      |     |

\*Can also be taken as SOCI 454 or PHIL 454

### CONCENTRATION: English

|              |                           |   |
|--------------|---------------------------|---|
| ENGL 234     | Literary Analysis         | 4 |
| ENGL 445     | Shakespeare               | 3 |
| ENGL 455     | Classical Backgrounds     | 3 |
| ENGL 324-338 | Upper-division writing    | 3 |
| ENGL         | Upper-division literature | 8 |

### CONCENTRATION: Fine Arts

|                    |                              |    |
|--------------------|------------------------------|----|
| ART 324, 325       | History of Art               | 6  |
| MUHL 321, 322, 323 | History of Music             | 12 |
| SPCH 363           | History of Dramatic Arts     | 4  |
| or                 |                              |    |
| ENGL 464           | Development of English Drama | 4  |

### CONCENTRATION: History (12 quarter hours must be upper division)

|               |                                                                       |   |
|---------------|-----------------------------------------------------------------------|---|
| HIST 221, 222 | History of the United States                                          | 8 |
| HIST 457      | Social and Intellectual History<br>of the United States (recommended) | 4 |
| PLSC 454      | Western Political and Social Thought<br>(recommended)                 | 4 |
| PLSC 455      | Western Political and Social Theory<br>(recommended)                  | 4 |

### CONCENTRATION: Modern Languages

|                    |                                         |       |
|--------------------|-----------------------------------------|-------|
| FREN 301, 302, 303 | Survey of French Literature             | 15-20 |
| FREN 407           | 17th and 18th Century French Literature |       |
| FREN 408           | 19th Century French Literature          |       |
| FREN 409           | 20th Century French Literature          |       |
| or                 |                                         | 15-20 |
| GRMN 311, 312, 313 | Survey of German Literature             |       |
| GRMN 421           | 18th Century German Literature          |       |
| GRMN 422           | 19th Century German Literature          |       |
| GRMN 423           | 20th Century German Literature          |       |
| or                 |                                         | 15-20 |
| SPAN 324, 325, 326 | Survey of Spanish Literature            |       |
| SPAN 424, 425, 426 | Contemporary Spanish Literature         |       |
| SPAN 431, 432, 433 | Survey of Latin-American Literature     |       |

|               |                                 |   |     |
|---------------|---------------------------------|---|-----|
| FREN 307      | French Culture and Civilization | } | 0-6 |
| or            |                                 |   |     |
| GRMN 314, 315 | German Civilization             |   |     |

|          |                                           |  |  |
|----------|-------------------------------------------|--|--|
| or       |                                           |  |  |
| SPAN 331 | Spanish-American Culture and Civilization |  |  |

**CONCENTRATION: Philosophy**

|               |                                      |   |    |
|---------------|--------------------------------------|---|----|
| PHIL 206      | Introduction to Logic                | } | 16 |
| PHIL 305      | Moral Philosophy                     |   |    |
| PHIL 306, 307 | History of Philosophy                |   |    |
| PHIL 407      | Philosophy of Science                |   |    |
| PHIL 412      | Philosophy of Religion               |   |    |
| PHIL 440      | Problems in Philosophy               |   |    |
| PHIL 454      | Western Political and Social Thought |   |    |

**CONCENTRATION: Religious Studies**

Twenty total hours are required for the concentration, ten of which may overlap with the general studies requirement in Religion. The concentration cannot include credit from the Biblical Studies (RELB) portion of the general studies offerings in Religion. Because the general studies requirement includes six hours of RELB course work, a student with a religious studies concentration will graduate with a total of at least twenty six hours of religion. The six hours of Biblical Studies required in the general studies program, must include at least three upper division credits.

|          |                                                                                                                                                     |   |       |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---|-------|
| RELT 404 | Approaches to Biblical Interpretation                                                                                                               | } | 11-12 |
| RELH 403 | World Religions                                                                                                                                     |   |       |
| or       |                                                                                                                                                     |   |       |
| RELT 412 | Philosophy of Religion<br>(One of these courses is already required as a humanities cognate, the other is for the Religious Studies concentration.) |   |       |
| PHIL 305 | Moral Philosophy                                                                                                                                    | } | 8-9   |
| or       |                                                                                                                                                     |   |       |
| RELT 246 | Christian Ethics                                                                                                                                    |   |       |
| RELH/    |                                                                                                                                                     |   |       |
| RELT 469 | Advanced Studies                                                                                                                                    |   |       |
| RELH 205 | Biblical Archaeology                                                                                                                                |   |       |
| ENGL 454 | Literature of the Bible                                                                                                                             |   |       |
| SOCI 449 | Sociology of Religion                                                                                                                               |   |       |
| RELT 417 | Christian Dynamics                                                                                                                                  |   |       |
| or       |                                                                                                                                                     |   |       |
| RELT 418 | Christian Dynamics                                                                                                                                  |   |       |
| RELH 455 | Early Church History                                                                                                                                |   |       |
| HIST 456 | Medieval and Modern Church History                                                                                                                  |   |       |
| HONR 349 | Religion in a Social Context<br>(for general studies honors students only)                                                                          |   |       |

—  
20**HUMANITIES (HMNT)****HMNT 496 SEMINAR IN HUMANITIES**

3

Study of interdisciplinary topics in humanities; includes problems in areas of special interest to class members and group conferences and reports.



*Village Church now known as Village Hall*

## **MEDICAL TECHNOLOGY**

Steven Lee, Academic Adviser.

The major in medical technology involves three years of preclinical education on the Walla Walla College campus and twelve months of additional education in an accredited clinical laboratory. Upon completion of the fourth year, the student may receive a Bachelor of Science degree from Walla Walla College.

Students may apply to the clinical program of their choice. Entrance into a clinical program is competitive. Applicants are selected on the basis of such qualities as scholarship, integrity, dependability and motivation for medical technology.

The courses included as a part of the major meet the requirements of the National Accrediting Agency for Clinical Laboratory Sciences. Since requirements for entry into the clinical program vary, students interested in specific clinical programs must contact these institutions to be certain that all entry requirements be satisfied.

### **MAJOR IN MEDICAL TECHNOLOGY (Bachelor of Science)**

A student majoring in medical technology must complete 144 quarter hours of interdisciplinary courses including the general studies requirements for the bachelors degree as outlined in this bulletin. In addition, 30 quarter hours of

preclinical coursework must be upper division. Completion of an accredited clinical experience (48 quarter hours minimum) completes the degree requirements.

|                    |                              |    |
|--------------------|------------------------------|----|
| BIOL 101, 102, 103 | General Biology              | 12 |
| BIOL 222           | Microbiology                 |    |
| or                 |                              |    |
| *BIOL 465          | Bacteriology                 | 5  |
| BIOL 466           | Immunology                   | 4  |
| BIOL               | Elective                     | 4  |
| CHEM 141, 142, 143 | General Chemistry            | 9  |
| CHEM 144, 145, 146 | General Chemistry Laboratory | 3  |

\*Prerequisites for the upper division courses are described in the Biology section of this bulletin.

|                    |                                  |              |
|--------------------|----------------------------------|--------------|
| CHEM 321, 322, 323 | Organic Chemistry                | 9            |
| CHEM 324, 325, 326 | Microscale Organic Laboratory    | 3            |
| MATH 121           | Fundamentals of Mathematics I    |              |
| or                 |                                  |              |
| MATH 117           | Precalculus                      |              |
| or                 |                                  |              |
| MATH 181           | Analytic Geometry and Calculus I | 4-5          |
| or                 |                                  |              |
| MATH 123           | Survey of Calculus               |              |
|                    | Major Electives                  |              |
|                    |                                  | 12           |
|                    |                                  | <u>65-66</u> |

Courses that may be applied as major elective credit are:

|                    |                                   |         |
|--------------------|-----------------------------------|---------|
| ACCT 201, 202, 203 | Principles of Accounting          |         |
| or                 |                                   |         |
| ACCT 205, 206      | Principles of Accounting          | 10      |
| BIOL 393           | Genetics                          | 4       |
| BIOL 392           | Cell Biology                      | 4       |
| BIOL 449           | Vertebrate Histology              | 4       |
| CHEM 264           | Chemical Equilibrium and Analysis | 4       |
| CHEM 265           | Analytical Instrumental Methods I | 4       |
| CHEM 431, 432      | Biochemistry                      | 3, 3    |
| CHEM 433, 434      | Biochemistry Laboratory Methods   | 1, 1    |
| CPTR 105           | Personal Computing                | 3       |
| ELCT 241           | Fundamentals of Electronics       | 8       |
| MGMT               | Elective                          |         |
| PHYS 211, 212, 213 | General Physics                   | 3, 3, 3 |
| PHYS 214, 215, 216 | General Physics Laboratory        | 1, 1, 1 |
| or                 |                                   |         |
| PHYS 251, 252, 253 | Principles of Physics             | 3, 3, 3 |
| PHYS 254, 255, 256 | Principles of Physics Laboratory  | 1, 1, 1 |
| PSYC 130           | General Psychology                | 4       |

### MAJOR IN MEDICAL TECHNOLOGY AND CLINICAL CHEMISTRY (Bachelor of Science)

A student majoring in medical technology and clinical chemistry must complete 144 quarter hours of interdisciplinary courses (30 quarter hours must be upper

## INTERDISCIPLINARY PROGRAMS

division) and the general studies program for the baccalaureate degree as outlined in this bulletin, in addition to a 12-month (48 quarter hours) clinical experience. Students will share the results of reading and research through formal courses as listed below:

|       |               |                                      |    |
|-------|---------------|--------------------------------------|----|
| BIOL  | 101, 102, 103 | General Biology                      | 12 |
| BIOL  | 222           | Microbiology                         |    |
| or    |               |                                      |    |
| *BIOL | 465           | Bacteriology                         | 5  |
| BIOL  | 201, 202      | Anatomy and Physiology               |    |
| or    |               |                                      |    |
| *BIOL | 392           | Cell Biology                         | 8  |
| and   |               |                                      |    |
| *BIOL | 464           | Animal Physiology                    |    |
| CHEM  | 141, 142, 143 | General Chemistry                    | 9  |
| CHEM  | 144, 145, 146 | General Chemistry Laboratory         | 3  |
| CHEM  | 264           | Chemical Equilibrium and Analysis    | 4  |
| CHEM  | 265           | Analytical Instrumental Methods I    | 4  |
| CHEM  | 321, 322, 323 | Organic Chemistry                    | 9  |
| CHEM  | 324, 325, 326 | Microscale Organic Laboratory        | 3  |
| CHEM  | 351, 352, 353 | Physical Chemistry                   | 9  |
| CHEM  | 354, 355, 356 | Physical Chemistry Laboratory        | 3  |
| MATH  | 121, 122      | Fundamentals of Mathematics I, II    | 8  |
| MATH  | 181, 281      | Analytic Geometry and Calculus I, II | 8  |
| PHYS  | 211, 212, 213 | General Physics                      | 9  |
| PHYS  | 214, 215, 216 | General Physics Laboratory           | 3  |

\*Prerequisites for the upper division courses are described in the Biology section of this bulletin.

97



Science laboratory

## LIBRARY SCIENCE

Carolyn Gaskell, Chair; Mark Copsey, Vivian Hassell, Lee Johnston, Violet Maynard-Reid.

The minor in Library Science is designed to develop the student's understanding of the basic principles of storage and retrieval of information as well as the organization and management of libraries. Students are prepared for careers in learning resource centers both in denominational and public elementary and secondary schools and as library technicians. The minor also provides a preprofessional curriculum as a preparation for graduate work in library science.

### MINOR IN LIBRARY SCIENCE

A student minoring in library science must complete 30 quarter hours:

|          |                                                |           |
|----------|------------------------------------------------|-----------|
| LIBR 111 | Introduction to Library Resources              | 2         |
| LIBR 232 | Information Resources                          | 3         |
| LIBR 261 | Cataloging and Classification                  | 4         |
| LIBR 385 | Selection and Acquisition of Library Materials | 3         |
| LIBR 490 | Directed Library Experience                    | 4         |
|          | Electives                                      | <u>14</u> |
|          |                                                | <u>30</u> |

In addition to courses from the department, electives may be selected from the following:

|          |                           |   |
|----------|---------------------------|---|
| ART 201  | Calligraphy               | 2 |
| CPTR 105 | Personal Computing        | 3 |
| INCR 126 | Bookbinding               | 2 |
| SPCH 211 | Oral Interpretation       | 4 |
| SPCH 207 | Small Group Communication | 3 |
| or       |                           |   |
| PSYC 360 | Small Group Procedures    | 3 |

Electives must be chosen in consultation with and approved by the department chair.

### LIBRARY SCIENCE (LIBR)

#### LIBR 111 INTRODUCTION TO LIBRARY RESOURCES 2

Introduction to libraries and how to use their resources effectively for research purposes; a survey of procedures for the systematic search for information.

#### LIBR 232 INFORMATION RESOURCES 3

Introduction to the evaluation and use of formal resource materials in meeting the information and educational needs of a library clientele; analysis of concepts and principles of bibliographic organization. Prerequisite: LIBR 111. Offered odd years only.

#### LIBR 261 CATALOGING AND CLASSIFICATION 4

Introduction to principles, techniques, and practices of cataloging and classifying materials for use in instructional materials centers. Offered odd years only.

#### LIBR 288 STORYTELLING 2

Study of the place of storytelling in the educational process; selection, preparation, and presentation of diversified materials. Offered even years only.



*At the close of school in 1918, the library had a total of 2,500 books*

**LIBR 374 LITERATURE FOR CHILDREN**

3

Study of literature for children from early childhood through elementary school. Emphasizes literary and artistic quality and appeal to children. Requires extensive reading of children's books and writing of critical analysis. Same as ENGL 374. Applies toward an English minor.

**LIBR 375 LITERATURE FOR YOUNG ADULTS**

3

Study of literature appropriate for junior high and high school students. Emphasizes literary and artistic quality as well as theory of response to literature. Requires extensive reading of literature for young adults and writing of critical analysis. Same as ENGL 375.

**LIBR 385 SELECTION AND ACQUISITION OF LIBRARY MATERIALS**

3

Study of materials selection criteria and policies, overview of the process of building and maintaining library collections, appraisal of current and retrospective selection tools and review media, survey of current publishing world, study of library acquisition procedures, and techniques of handling censorship. Offered even years only.

**LIBR 456 ADMINISTRATION OF SCHOOL LIBRARIES**

3

Study of the general principles of administration; application of techniques to the organization and management of the school library. Offered even years only.

**LIBR 490 DIRECTED LIBRARY EXPERIENCE**

4-6; 6

Practical experience in elementary or secondary school libraries under the supervision of qualified librarians. Application must be made during the first two weeks of the quarter prior to the actual library practice. Four to six hours any quarter except summer; maximum, six.

## MATHEMATICS

Thomas Thompson, Chair; Gordon Hare, David Jewkes, Melvin Lang, Ward Soper, Kenneth Wiggins.

The Department of Mathematics offers programs leading to the Bachelor of Arts and Bachelor of Science degrees. The mathematics entrance requirements are two years of high school algebra and a year of Euclidean geometry. It is highly recommended that students have a fourth year of mathematics.

### MAJOR IN MATHEMATICS (Bachelor of Arts)

A student majoring in mathematics must complete 45 quarter hours in the major, required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general and subject (Mathematics) sections.

#### Major Requirements:

|                   |                                                                                                                                                 |    |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----|
| MATH 181, 281-283 | Analytic Geometry and Calculus I-IV                                                                                                             | 16 |
| MATH 289          | Linear Algebra and Its Applications                                                                                                             | 3  |
| MATH 451, 452     | Advanced Calculus                                                                                                                               | 6  |
| MATH 461          | Modern Algebra                                                                                                                                  | 4  |
| MATH 496          | Seminar                                                                                                                                         | 1  |
|                   | Electives (must include at least one of<br>MATH 442, 453 or 462; 11 must be upper<br>division; a maximum of 4 hours of<br>MATH 117, 121 or 122) | 15 |
|                   |                                                                                                                                                 | —  |
|                   |                                                                                                                                                 | 45 |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. Students seeking a teaching endorsement should consult with the certification officer in the Education and Psychology Department.\*

#### Cognate:

|          |                                      |   |
|----------|--------------------------------------|---|
| CPTR 141 | Introduction to Programming (Pascal) | 4 |
|----------|--------------------------------------|---|

### MAJOR IN MATHEMATICS (Bachelor of Science)

A student majoring in mathematics must complete the core requirements plus one option, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. A student contemplating graduate work is encouraged to take a foreign language sequence. Senior students are required to take the Graduate Record Examination, general and subject (Mathematics) sections.

#### Core Requirements:

|                   |                                     |    |
|-------------------|-------------------------------------|----|
| MATH 181, 281-283 | Analytic Geometry and Calculus I-IV | 16 |
| MATH 289          | Linear Algebra and Its Applications | 3  |
| MATH 496          | Seminar                             | 1  |
|                   |                                     | —  |
|                   |                                     | 20 |

#### OPTION: Preparation for Graduate Study

|                    |                   |   |
|--------------------|-------------------|---|
| MATH 451, 452, 453 | Advanced Calculus | 9 |
|--------------------|-------------------|---|

## MATHEMATICS

|               |                             |         |
|---------------|-----------------------------|---------|
| MATH 461, 462 | Modern Algebra<br>Electives | 8<br>15 |
|---------------|-----------------------------|---------|

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

32

### OPTION: Preparation for Secondary Teaching

|               |                             |         |
|---------------|-----------------------------|---------|
| MATH 250      | Discrete Mathematics        | 4       |
| MATH 315      | Probability and Statistics  | 4       |
| MATH 321      | Geometry                    | 4       |
| MATH 451, 452 | Advanced Calculus           | 6       |
| MATH 461      | Modern Algebra<br>Electives | 4<br>10 |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. Students seeking a teaching endorsement should consult with the certification officer in the Education and Psychology Department

32

### OPTION: Applied Mathematics

|          |                                                                                                                                                                          |       |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| MATH 312 | Ordinary Differential Equations                                                                                                                                          | 4     |
| MATH 315 | Probability and Statistics                                                                                                                                               | 4     |
| MATH 341 | Numerical Analysis                                                                                                                                                       | 4     |
| MATH 442 | Advanced Numerical Analysis                                                                                                                                              | 4     |
| MATH 451 | Advanced Calculus                                                                                                                                                        | 3-4   |
| or       |                                                                                                                                                                          |       |
| MATH 461 | Modern Algebra<br>Electives<br>Mathematics                                                                                                                               | 12-13 |
|          | or                                                                                                                                                                       |       |
|          | Selected courses from MATH, CPTR or<br>ENGR (Courses not in mathematics must<br>be chosen from CPTR 142, 211, 215, 341,<br>343, 350, 352, 374, 454, or ENGR<br>454, 455) | 20-21 |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

32-40

52-60

### Cognates:

|                                 |                                      |   |
|---------------------------------|--------------------------------------|---|
| CPTR 141                        | Introduction to Programming (Pascal) | 4 |
| BIOL 101, 102, 103              | General Biology                      |   |
| or                              |                                      |   |
| CHEM 141, 142, 143              | General Chemistry                    |   |
| CHEM 144, 145, 146              | General Chemistry Laboratory         |   |
| or                              |                                      |   |
| (Three additional CPTR classes) |                                      |   |
| CPTR 142                        | Data Structures                      |   |
| CPTR 215                        | Assembly Language Programming        |   |
| CPTR 224                        | Scientific Computer Applications     |   |
| CPTR 255                        | Computer Graphics                    |   |

9-12

|      |               |                           |   |
|------|---------------|---------------------------|---|
| PHYS | 251, 252, 253 | Principles of Physics     | 9 |
| PHYS | 254, 255, 256 | Principles of Physics Lab | 3 |

## MINOR IN MATHEMATICS

A student minoring in mathematics must complete 28 quarter hours:

|                                      |    |
|--------------------------------------|----|
| Electives (4 must be upper division) | 28 |
|--------------------------------------|----|

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. Students seeking a teaching endorsement should consult with the certification officer in the Education and Psychology Department.

## MATHEMATICS (MATH)

A student must satisfy entrance requirements in mathematics before enrolling for a college-level (above 100 level) mathematics class. Concurrent enrollment may be allowed with permission from the Mathematics Department. Provisions are made for students to take non-credit mathematics courses if they have not satisfied the mathematics entrance requirements.

### MATH 100 INTERMEDIATE ALGEBRA

4

Review of high school algebra, including topics such as sets, numbers, exponents, polynomials, factoring rational algebraic expressions, graphs, first and second degree equations, and inequalities. Credit does not apply toward graduation.

### MATH 105 MATHEMATICS WITH APPLICATIONS

4

Introduction to mathematics, including algebraic concepts, systems of equations, linear programming, permutations, combinations, probability, descriptive statistics, and computer applications. Designed to meet the general studies requirement for the baccalaureate degree but will not apply toward a major or minor in mathematics.

### MATH 106 APPLIED STATISTICS

4

Study of applied statistics, including methods of describing data, distributions, sampling, confidence intervals, hypothesis testing including analysis of variance, correlation and regression. Designed to meet the general studies requirements for the baccalaureate degree, but will not apply toward a major or minor in mathematics. Prerequisite: MATH 100 or MATH 105 or MATH 117 or MATH 121 or a satisfactory score on ACT.

### MATH 115 ELEMENTARY MATHEMATICS

4

Study of topics in mathematics, including number theory, geometry, numeration, number systems, graphs, algebra, statistics, measurements, and computer programming. Designed to meet the general studies requirement for the baccalaureate degree, but will not apply toward a major or minor in mathematics.

### MATH 117 PRECALCULUS

5

Introduction to college algebra and trigonometry including equations and inequalities; algebraic, exponential, logarithmic, and trigonometric functions; graphs; and complex numbers. Placement examination required. Algebra II strongly recommended. Credit will not be allowed for both MATH 117 and MATH 121 or 122.

### MATH 121, 122 FUNDAMENTALS OF MATHEMATICS I, II

4, 4

Study of college algebra and trigonometry including integers; rational, real, and complex numbers; equations and inequalities; polynomials; algebraic, exponential, logarithmic, and trigonometric functions; graphs; the binomial theorem; matrices; determinants; progressions; and mathematical induction. Must be taken in sequence. Placement examination required. Algebra II strongly recommended. Credit will not be allowed for both MATH 117 and MATH 121 or MATH 122.

## MATHEMATICS

### MATH 123 SURVEY OF CALCULUS

4

Introduction to calculus, including topics such as functions, limits, derivatives, and integration in one or more variables; applications from business and social sciences. Prerequisite: MATH 117 or MATH 121 or a satisfactory score on a departmental qualifying examination.

### MATH 181 ANALYTIC GEOMETRY AND CALCULUS I

4

Study of functions, limits, continuity, derivatives, definite integrals, and the Fundamental Theorem of Calculus. Prerequisite: MATH 117 or MATH 122 or a satisfactory score on a departmental qualifying examination.

### MATH 281 ANALYTIC GEOMETRY AND CALCULUS II

4

Study of indefinite integrals, calculus of inverse functions, and techniques of integration. Prerequisite: MATH 181.

### MATH 282 ANALYTIC GEOMETRY AND CALCULUS III

4

Study of sequences, series, polar coordinates, parametric equations, and vectors. Prerequisite: MATH 281.



Geometry Class of 1914

### MATH 283 ANALYTIC GEOMETRY AND CALCULUS IV

4

Study of differential and integral calculus of multi-variable functions, line and surface integrals, Green's theorem, divergence theorem, and Stokes' theorem. Prerequisite: MATH 282.

### MATH 250 DISCRETE MATHEMATICS

4

Introduction to discrete mathematical structures with computer applications. Topics include combinatorics, sets, recursion, and graph theory. Prerequisites: MATH 181 and knowledge of a programming language.

### MATH 289 LINEAR ALGEBRA AND ITS APPLICATIONS

3

Study of vector spaces, linear transformations, matrices and determinants, with applications. Prerequisite: MATH 117 or MATH 122.

### MATH 312 ORDINARY DIFFERENTIAL EQUATIONS

4

Study of solutions of first order differential equations, solutions of linear differential equations of order  $n$ , applications, linear systems, and series solutions. Prerequisite: MATH 283.

|                                                                                                                                                                                                                                                                                                                                     |         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>MATH 315 PROBABILITY AND STATISTICS</b>                                                                                                                                                                                                                                                                                          | 4       |
| Study of probability, discrete and continuous probability density functions, moments, sampling, correlation, regression, confidence intervals, and hypothesis testing. Prerequisites: CPTR 141; MATH 283                                                                                                                            |         |
| <b>MATH 316 STATISTICS</b>                                                                                                                                                                                                                                                                                                          | 3       |
| Study of multiple linear regression, analysis of variance, contingency tables, goodness-of-fit, nonparametric statistics, correlation and discriminant analysis, and Bayesian decision-making. Prerequisite: MATH 315. Offered even years only.                                                                                     |         |
| <b>MATH 321 GEOMETRY</b>                                                                                                                                                                                                                                                                                                            | 4       |
| Study of geometries, concentrating on Euclidean, non-Euclidean, and projective geometries; examination of axiomatic foundations and qualitative study of the geometries; considers briefly Mohr-Mascheroni constructions and impossible constructions. Prerequisite: MATH 281 and permission of instructor. Offered even years only |         |
| <b>MATH 341 NUMERICAL ANALYSIS</b>                                                                                                                                                                                                                                                                                                  | 4       |
| Study of numerical methods with computer applications; topics include numerical solutions of nonlinear equations, systems of equations, ordinary differential equations, interpolation, and numerical integration. Prerequisites: CPTR 141; MATH 289. Corequisite: MATH 312.                                                        |         |
| <b>MATH 351 OPERATIONS RESEARCH</b>                                                                                                                                                                                                                                                                                                 | 4       |
| Introduction to deterministic models in operations research; includes linear programming, network analysis, dynamic programming, and game theory. Prerequisites: CPTR 141; MATH 283; MATH 289 or permission of instructor. Offered odd years only.                                                                                  |         |
| <b>MATH 395 METHODS OF TEACHING MATHEMATICS</b>                                                                                                                                                                                                                                                                                     | 3       |
| Methods, materials, and techniques of teaching mathematics on the secondary school level; requires observation, demonstration, and class presentation. Will not apply toward a major or minor in mathematics. Offered odd years only.                                                                                               |         |
| <b>MATH 423 INTRODUCTION TO THE THEORY OF COMPLEX VARIABLES</b>                                                                                                                                                                                                                                                                     | 4       |
| Study of functions of a complex variable, the geometry of elementary functions, integration, power series, calculus of residues, and conformal mapping. Prerequisite: MATH 283. Offered odd years only.                                                                                                                             |         |
| <b>MATH 442 ADVANCED NUMERICAL ANALYSIS</b>                                                                                                                                                                                                                                                                                         | 4       |
| Study of curve fitting, approximation of functions, Monte Carlo methods, boundary value problems, and partial differential equations. Prerequisite: MATH 341. Offered even years only.                                                                                                                                              |         |
| <b>MATH 451, 452, 453 ADVANCED CALCULUS</b>                                                                                                                                                                                                                                                                                         | 3, 3, 3 |
| Study of functions of one and several variables including continuity, differentiation, integration, infinite series, uniform convergence, and selected topics. Prerequisite: MATH 283. Offered odd years only.                                                                                                                      |         |
| <b>MATH 461, 462, 463 MODERN ALGEBRA</b>                                                                                                                                                                                                                                                                                            | 4, 4, 4 |
| Study of groups, rings, fields, vector spaces, linear transformations, selected topics, and applications. Prerequisite: MATH 289. Offered even years only.                                                                                                                                                                          |         |
| <b>MATH 494 COOPERATIVE EDUCATION</b>                                                                                                                                                                                                                                                                                               | 0       |
| Individual contract involving students, faculty, and cooperating employers which provides the student with practical experiences in an off-campus setting. Graded S or NC. Prerequisites: MATH 283, CDEV 210 or equivalent, and departmental approval.                                                                              |         |
| <b>MATH 496 SEMINAR</b>                                                                                                                                                                                                                                                                                                             | 1       |
| Includes giving an oral report and writing a scholarly paper on an approved mathematical topic. Prerequisite MATH 451 or 461. Open to Junior/Senior math majors only.                                                                                                                                                               |         |

## **MODERN LANGUAGES**

Reinhard Czeratzki, Chair; Solange Henderson.

The objectives of the department are to develop competence in the ability to understand, speak, read, and write a foreign language and to provide through the knowledge of foreign languages a deepened understanding and appreciation of the literature and culture of other people.

Walla Walla College is a member of the Adventist Colleges Abroad consortium. Foreign language majors and minors who have not had residence in a country in which their language is spoken are urged to spend their sophomore or junior year abroad. Academic credit will be granted for these studies so that a student may be able to complete a full college year abroad. Prospective ACA students must have completed one year of college French, German, or Spanish or the equivalent with a grade-point average of 3.00. Applicants should consult with their major professors, the modern language department, and the Registrar prior to enrollment.

Majors and minors are offered in French, German, and Spanish.

A student planning to teach should confer with his assigned academic adviser and with the Education and Psychology Department in regard to certification and teaching credentials.

### **MAJOR IN FRENCH, GERMAN or SPANISH (Bachelor of Arts)**

A student majoring in French, German, or Spanish must complete 45 quarter hours beyond FREN 103, GRMN 113, or SPAN 123 in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Students participating in the Adventist Colleges Abroad program and majoring in a foreign language must complete a minimum of nine credit hours of upperdivision Modern language literature courses at Walla Walla College after their year abroad. The Modern Language Association Cooperative Foreign Language Proficiency Test is required.

### **MAJOR IN FRENCH**

#### **Major Requirements:**

|               |                                                  |           |
|---------------|--------------------------------------------------|-----------|
| FREN 202, 203 | Intermediate French                              | 8         |
| FREN 407      | 17th and 18th Century French Literature          | 4         |
| FREN 408      | 19th Century French Literature                   | 4         |
| FREN 409      | 20th Century French Literature                   | 4         |
|               | Electives (21 must be upper division literature) | <u>25</u> |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

45

**Cognates:**

|          |                           |   |
|----------|---------------------------|---|
| ENGL 284 | Advanced English Grammars | 3 |
| or       |                           |   |
| ENGL 485 | Linguistics               |   |

|          |                                      |
|----------|--------------------------------------|
| or       |                                      |
| MDLG 395 | Methods of Teaching Modern Languages |

**MAJOR IN GERMAN****Major Requirements:**

|               |                                        |           |
|---------------|----------------------------------------|-----------|
| GRMN 212, 213 | Intermediate German                    | 8         |
| GRMN 421      | 18th Century German Literature         | 4         |
| GRMN 422      | 19th Century German Literature         | 4         |
| GRMN 423      | 20th Century German Literature         | 4         |
|               | Electives (21 must be upper division ) | <u>25</u> |
|               |                                        | 45        |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

**Cognates:**

|          |                           |   |
|----------|---------------------------|---|
| ENGL 284 | Advanced English Grammars | 3 |
| or       |                           |   |
| ENGL 485 | Linguistics               |   |

|          |                                      |
|----------|--------------------------------------|
| or       |                                      |
| MDLG 395 | Methods of Teaching Modern Languages |

**MAJOR IN SPANISH****Major Requirements:**

|                    |                                        |           |
|--------------------|----------------------------------------|-----------|
| SPAN 222, 223      | Intermediate Spanish                   | 8         |
| SPAN 324, 325, 326 | Survey of Spanish Literature           | 3-9       |
| SPAN 424, 425      | Contemporary Spanish Literature        | 3-6       |
| SPAN 431, 432, 433 | Survey of Latin-American Literature    | 3-9       |
|                    | Electives (21 must be upper division ) | <u>25</u> |
|                    |                                        | 45        |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

**Cognates:**

|          |                           |   |
|----------|---------------------------|---|
| ENGL 284 | Advanced English Grammars | 3 |
| or       |                           |   |
| ENGL 485 | Linguistics               |   |

|          |                                      |
|----------|--------------------------------------|
| or       |                                      |
| MDLG 395 | Methods of Teaching Modern Languages |

Students in the Adventist Colleges Abroad program must take a minimum of twelve credit hours of upper-division Modern Language literature courses at Walla Walla College.

## MODERN LANGUAGES

### MINOR IN FRENCH, GERMAN or SPANISH

A student minoring in French, German, or Spanish must complete 28 quarter hours beyond FREN 101; GRMN 111; or SPAN 121; 8 quarter hours must be upper division. Approval of the language adviser required.

#### FRENCH (FREN)

##### FREN 101 INTRODUCTION TO FRENCH

4

Introduction to the study of French with elementary practice in the skills of understanding, speaking, reading, and writing; includes grammatical terminology and the sound system of French, plus basic grammar and vocabulary at the elementary level. Language laboratory required.

##### FREN 102, 103 ELEMENTARY FRENCH

4, 4

Elementary study of French, including listening, speaking, reading, and writing skills; emphasizes grammatical structures and vocabulary building. Language laboratory required. Prerequisite: FREN 101 or equivalent.

##### FREN 202, 203 INTERMEDIATE FRENCH

4, 4

Intermediate study of French, based on readings in French literature and civilization, combined with a review of grammar and the development of speaking and writing skills. Prerequisite: FREN 103 or equivalent.

##### FREN 301, 302, 303 SURVEY OF FRENCH LITERATURE

3, 3, 3

Survey of French masterworks from *La Chanson de Roland* to the present. Introduction to literary analysis; lectures, reports, required library reading. Prerequisite: FREN 203 or equivalent.

##### FREN 304, 305, 306 ADVANCED FRENCH

3, 3, 3

Intensive training in oral and written French; includes review of grammar and extensive prose reading and exercises in composition and conversation. Laboratory required. Conducted in French. Must be taken in sequence. Prerequisite: FREN 203 or equivalent.

##### FREN 307 FRENCH CIVILIZATION

4

Historical overview of French culture as seen in its art, architecture, science, literature, and politics; culminating in a study of French life in the 20th century. Prerequisite: FREN 203 or permission of instructor.

##### FREN 404 FRENCH DIRECTED READING

1-3; 6

Assigned reading and reports in French. Prerequisites: FREN 304, 305, 306. One to three hours per quarter; maximum, six.

##### FREN 407 17TH AND 18TH CENTURY FRENCH LITERATURE

4

Study of French classical writers such as Racine, Moliere, and Corneille and of philosophers such as Voltaire, Montesquieu, and Rousseau.

##### FREN 408 19TH CENTURY FRENCH LITERATURE

4

Study of French literature from the end of the Revolution to World War I; includes Romanticism, Realism, Naturalism, and the Parnasse.

##### FREN 409 20TH CENTURY FRENCH LITERATURE

4

Study of French literature from World War I to the present.

#### GERMAN (GRMN)

##### GRMN 111 INTRODUCTION TO GERMAN

4

Introduction to descriptive grammatical terminology, the German sound system, basic grammar, and everyday vocabulary; provides elementary practice in the skills of understanding, speaking, reading, and writing. Language laboratory required.

|                                                                                                                                                                                                                        |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>GRMN 112, 113 ELEMENTARY GERMAN</b>                                                                                                                                                                                 | <b>4, 4</b>    |
| Elementary study of German, including listening, speaking, reading, and writing skills; emphasizes grammatical structures and vocabulary building. Language laboratory required. Prerequisite: GRMN 111 or equivalent. |                |
| <b>GRMN 212, 213 INTERMEDIATE GERMAN</b>                                                                                                                                                                               | <b>4, 4</b>    |
| Intermediate study of German, based on readings in German literature and civilization, combined with a review of grammar and the development of speaking and writing skills. Prerequisite: GRMN 113 or equivalent.     |                |
| <b>GRMN 311, 312, 313 SURVEY OF GERMAN LITERATURE</b>                                                                                                                                                                  | <b>3, 3, 3</b> |
| Survey of German literature from the eighth century to the present, supplemented by readings from representative masterpieces of the language.                                                                         |                |
| <b>GRMN 314, GERMAN CIVILIZATION</b>                                                                                                                                                                                   | <b>4</b>       |
| Study of the development of the cultural, social and political life in German-speaking lands as reflected in architecture, art, history, literature, music, and philosophy. Lectures, films, reports.                  |                |
| <b>GRMN 317, 318, 319 ADVANCED GERMAN</b>                                                                                                                                                                              | <b>3, 3, 3</b> |
| Intensive practice in oral and written German; includes reading, analysis, and discussion of selected prose. Prerequisite: GRMN 213 or equivalent.                                                                     |                |
| <b>GRMN 411 GERMAN DIRECTED READING</b>                                                                                                                                                                                | <b>1-3; 6</b>  |
| Assigned readings and reports in German. Prerequisites: GRMN 311, 312, 313. One to three hours per quarter; maximum, six.                                                                                              |                |
| <b>GRMN 421 18TH CENTURY GERMAN LITERATURE</b>                                                                                                                                                                         | <b>4</b>       |
| Study of German literature, emphasizing Lessing and the Enlightenment, the period of "Storm and Stress," and the rise of Weimar Classicism (Goethe, Schiller).                                                         |                |
| <b>GRMN 422 19TH CENTURY GERMAN LITERATURE</b>                                                                                                                                                                         | <b>4</b>       |
| Study of poetic theory and its application to Romantic lyric and prose; includes the transition from Romanticism to Realism and the reading of representative works.                                                   |                |
| <b>GRMN 423 20TH CENTURY GERMAN LITERATURE</b>                                                                                                                                                                         | <b>4</b>       |
| Introduction to major authors and literary movements from 1880 to the present; includes Naturalism, Expressionism, Symbolism, and recent trends in German literature.                                                  |                |

### **JAPANESE (JAPN)**

|                                                                                                                                                                                                              |             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>JAPN 131 INTRODUCTION TO JAPANESE</b>                                                                                                                                                                     | <b>4</b>    |
| Introduction to spoken and written Japanese, emphasizing vocabulary building and practical conversation skills. Language laboratory required.                                                                |             |
| <b>JAPN 132, 133 ELEMENTARY JAPANESE</b>                                                                                                                                                                     | <b>4, 4</b> |
| Elementary study of Japanese, including basic grammar, continued vocabulary building and development of conversation and writing skills. Language laboratory required. Prerequisite: JAPN 131 or equivalent. |             |

### **SPANISH (SPAN)**

|                                                                                                                                                                                           |             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>SPAN 121 INTRODUCTION TO SPANISH</b>                                                                                                                                                   | <b>4</b>    |
| Introduction to Spanish, providing the foundation for oral, writing and reading skills; includes basic Spanish grammar, as well as phonetics and phonology. Language laboratory required. |             |
| <b>SPAN 122, 123 ELEMENTARY SPANISH</b>                                                                                                                                                   | <b>4, 4</b> |
| Elementary study of Spanish, developing oral, writing, and reading skills. Language laboratory required. Prerequisite: SPAN 121 or equivalent.                                            |             |

## MODERN LANGUAGES

|                                                                                                                                                                                                                                                                                                   |         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>SPAN 222, 223 INTERMEDIATE SPANISH</b>                                                                                                                                                                                                                                                         | 4, 4    |
| Intermediate study of Spanish, emphasizing oral, writing, and reading skills, and mastery of grammar; designed to prepare students to use Spanish as a research and cultural tool. Prerequisite: SPAN 123 or equivalent.                                                                          |         |
| <b>SPAN 324, 325, 326 SURVEY OF SPANISH LITERATURE</b>                                                                                                                                                                                                                                            | 3, 3, 3 |
| Study of the development of Spanish literature from the 12th century to the present; includes a survey of the various genres of Spanish literature, supplemented by reading certain works in their entirety. Conducted in Spanish. Prerequisite: SPAN 223 or equivalent. Offered even years only. |         |
| <b>SPAN 330 IBERIAN CULTURE AND CIVILIZATION</b>                                                                                                                                                                                                                                                  | 4       |
| Study of the development of the cultural, social, and political life of the Iberian peoples, from Greek and Roman times to the present, as reflected in art, architecture, history, literature, music, and philosophy. Conducted in Spanish. Offered even years only.                             |         |
| <b>SPAN 331 SPANISH-AMERICAN CULTURE AND CIVILIZATION</b>                                                                                                                                                                                                                                         | 4       |
| Study of the development of the cultural, social, and political life of Spanish America from the pre-Columbian period to the present, as reflected in art, architecture, history, literature, music, and philosophy. Offered odd years only.                                                      |         |
| <b>SPAN 341, 342, 343 ADVANCED SPANISH GRAMMAR</b>                                                                                                                                                                                                                                                | 3, 3, 3 |
| Intensive training in oral and written Spanish; includes review of grammar and extensive prose reading, exercises in composition and conversation. Conducted in Spanish. Prerequisite: SPAN 223 or equivalent.                                                                                    |         |
| <b>SPAN 414 SPANISH DIRECTED READING</b>                                                                                                                                                                                                                                                          | 1-3; 6  |
| Assigned readings and reports in Spanish. Prerequisites: SPAN 341, 342, 343. One to three hours per quarter; maximum, six.                                                                                                                                                                        |         |
| <b>SPAN 424, 425, CONTEMPORARY SPANISH LITERATURE</b>                                                                                                                                                                                                                                             | 3, 3    |
| Study and analysis of Spanish literature from about 1898 to the latest writers who have achieved critical acclaim; emphasizes development of literary critical ability and evaluation of modern Spanish literature from historical and social points of view.                                     |         |
| <b>SPAN 431, 432, 433 SURVEY OF LATIN-AMERICAN LITERATURE</b>                                                                                                                                                                                                                                     | 3, 3, 3 |
| Study of the development of Latin American literature from pre-Columbian Indian literature to the present; includes various genres of Latin American literature, supplemented by reading certain works in their entirety. Conducted in Spanish. Offered odd years only.                           |         |

## GENERAL (MDLG)

|                                                                                                                                                                                                                                                                                                               |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>MDLG 395 METHODS OF TEACHING MODERN LANGUAGES</b>                                                                                                                                                                                                                                                          | 3   |
| Study of principles and methods of teaching modern languages in the secondary school. Observation, demonstration, and class presentation are required. Will not apply on a major or minor in modern languages.                                                                                                |     |
| <b>MDLG 494 COOPERATIVE EDUCATION</b>                                                                                                                                                                                                                                                                         | 0-3 |
| Individual contract arrangement involving students, faculty, and cooperating regional or international organizations to gain practical experience using a foreign language in an off-campus setting. Prerequisites: Approval of the department; CDEV 210 or permission of the Cooperative Education Director. |     |

## MUSIC

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Dan Shultz, Chair; Kenneth Logan, Carlyle Manous, Leonard Richter, Kraig Scott (on leave), Glenn Spring.

Instruction and experiences in music are provided to prepare students for careers in music, guide in the development of performance skills, increase aesthetic sensitivity, and enhance the cultural setting of both campus and community.

The department offers the Bachelor of Arts and Bachelor of Music degrees. In each the main purpose is to develop in the student a conceptual understanding of historical and theoretical perspectives in music and their interrelationships as they affect listening, composing, and performing.

The Bachelor of Music degree is a professional program with a choice of two majors: Music Education or Music Performance. The Bachelor of Arts is a liberal arts degree. Formal acceptance as a music major or minor is accomplished by passing a performance audition before the music faculty and completing Theory I.

Piano proficiency is required of all majors. Requirements for minimum proficiency must be completed prior to application for upper division standing in the student's major performing area.

All students pursuing music degree programs will participate in a departmental music organization during each quarter in residence. Students whose performance area is voice will sing in a choir. Those whose performance area is instrumental will play in either the band or orchestra. Keyboard majors may elect up to six quarter hours in approved small ensemble activities toward the fulfillment of this requirement.

The department lists a number of requirements for its majors which must be met without credit. These include concert and recital attendance, and performance classes. Detailed information regarding these and other requirements is included in *A Guidebook for Students and Teachers*, available at the music office.

Transfer students majoring in music must take a minimum of six quarter hours in applied music at Walla Walla College. All majors must continue study in their primary applied area until completion of the Senior Recital.

### MUSIC EDUCATION (Bachelor of Music)

A student majoring in music education must complete the core requirements and one emphasis, as well as the general studies and certification requirements as outlined below. This curriculum provides for K-12 state teaching certification. Senior students are required to take the Graduate Record Examination, general and subject (Music) sections.

#### General Studies Requirements:

|      |               |                                                                     |    |
|------|---------------|---------------------------------------------------------------------|----|
| ENGL | 121, 122, 123 | College Writing                                                     | 8  |
| HIST | 120, 121, 122 | History of Western Civilization                                     | 8  |
| HLSC |               | *Health                                                             | 2  |
| PEAC |               | Physical Activity Courses                                           | 2  |
| PSYC | 130           | General Psychology                                                  | 4  |
|      |               | Mathematics and Natural Science<br>(as required by general studies) | 12 |

## MUSIC

|                  |                                                                                                                 |    |
|------------------|-----------------------------------------------------------------------------------------------------------------|----|
| RELB, RELH, RELT | *Religion and Theology                                                                                          | 18 |
|                  | *Denominational Certification requires specific classes. See Education and Psychology section of this bulletin. | 54 |

### Core Requirements:

|                    |                      |    |
|--------------------|----------------------|----|
| MUCT 121, 122, 123 | Theory I             | 12 |
| MUCT 221, 222, 223 | Theory II            | 12 |
| MUCT 424           | Form and Analysis    | 3  |
| MUCT 425           | Orchestration        | 3  |
| MUCT 426           | Counterpoint         | 3  |
| MUHL 134           | The Art of Listening | 3  |
| MUHL 321, 322, 323 | History of Music     | 12 |
| MUPF 361           | Basic Conducting     | 2  |
| MUPF               | Organizations        | 11 |
| MUPF               | Recital              |    |
|                    |                      | 61 |

### Certification Requirements: Music Education

Because there are grade-point requirements and other restrictions for certification, students are urged to consult with the certification officer in the Education and Psychology Department for updated information regarding certification.

#### Phase I

|              |                                                               |   |
|--------------|---------------------------------------------------------------|---|
| EDUC 110     | Principles and Concepts of Christian Education                | 2 |
| EDUC 210     | Foundations of Education                                      | 3 |
| EDUC 266/267 | Tutoring Elementary/Secondary                                 | 1 |
| PSYC 130     | General Psychology                                            | 4 |
| PSYC 215     | Psychology of Childhood and Adolescence                       | 4 |
| PSYC 220     | Educational Psychology                                        | 3 |
|              | Competencies as required                                      |   |
|              | Application for acceptance into the teacher education program |   |
|              | Speech and hearing clearance                                  |   |

#### Phase II

|                                      |                                               |    |
|--------------------------------------|-----------------------------------------------|----|
| EDUC 390                             | Educational Evaluation                        | 3  |
| EDUC 392                             | General Secondary Methods                     | 2  |
| EDUC 475                             | Teaching Reading Skills in Content Areas      | 3  |
| EDUC 478/479                         | Microteaching Elementary/Secondary            | 3  |
| EDUC 480/481                         | Student Teaching Elementary/Secondary         | 14 |
| MUED 395                             | Elementary School Music Methods and Materials | 4  |
| MUED 396                             | Secondary Music Methods                       | 3  |
| SPED 310                             | Foundations of Special Education              | 3  |
| Not required but highly recommended: |                                               |    |
| SPCH 310                             | Interpersonal and Nonverbal Communication     | 3  |
| PSYC 360                             | Small Group Procedures                        |    |
| or                                   |                                               |    |
| SPCH 207                             | Small Group Communication                     | 3  |

## Choose one of the following three emphases:

**Instrumental**

|      |                                                |    |
|------|------------------------------------------------|----|
| MUPF | Applied Music <sup>1</sup>                     | 20 |
| MUED | Instrumental Techniques and Methods<br>Classes | 8  |
| MUPF | Voice Performance Studies                      | 1  |
| MUPF | Conducting <sup>2</sup>                        | 6  |

**Choral**

|                    |                              |    |
|--------------------|------------------------------|----|
| MUED 251, 252, 253 | Singer's Diction             | 3  |
| MUED 354           | Vocal Techniques and Methods | 3  |
| MUPF               | Applied Music <sup>1</sup>   | 20 |
| MUPF               | Keyboard Performance Studies | 6  |
| MUPF               | Conducting <sup>2</sup>      | 6  |

**Keyboard**

|                    |                                                                                                                                                                                   |    |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| MUED 324           | Organ Pedagogy and Literature                                                                                                                                                     | 3  |
| MUED 334           | Piano Pedagogy and Literature                                                                                                                                                     | 3  |
| MUPF               | Apiled Music <sup>1</sup>                                                                                                                                                         | 20 |
| MUPF               | Additional Keyboard Performance Studies<br>(Students whose primary area is organ will<br>take piano and/or harpsichord; those<br>whose primary area is piano will take<br>organ.) | 6  |
| MUPF 351, 352, 353 | Advanced Keyboard Skills                                                                                                                                                          | 3  |
| MUPF               | Voice Performance Studies                                                                                                                                                         | 1  |

1. The student will choose these hours in one applied field, 8 of which must be upper division. A maximum of 3 hours of MUPF 127 may apply on the major. Students who reach a high level of proficiency may, with music faculty approval and guidance, complete this requirement by electing courses which will strengthen their preparedness in other areas within the music field. In no case will the student take less than 15 quarter hours in one applied field.

2. Three of these hours must be in area of emphasis.

**MUSIC PERFORMANCE (Bachelor of Music)**

A student majoring in music performance must complete 114 quarter hours in the major, and general studies as listed below. (This curriculum does not result in state teaching certification.) Senior students are required to take the Graduate Record Examination, general and subject (Music) sections.

**General Studies Requirements:**

|                                                |                                                                                                                                  |              |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------|
| ENGL 121, 122, 123                             | College Writing                                                                                                                  | 8            |
| FREN 101, 102, 103<br>or<br>GRMN 111, 112, 113 | French }<br>German }                                                                                                             | 12           |
|                                                | German recommended                                                                                                               |              |
| HIST 120, 121, 122                             | History of Western Civilization<br>Humanities (non-music)<br>Mathematics and General Science<br>(as required by general studies) | 8<br>4<br>12 |
| PEAC                                           | Physical Activity Courses                                                                                                        | 2            |

|                  |                       |    |
|------------------|-----------------------|----|
| RELB, RELH, RELT | Religion and Theology | 16 |
|                  |                       | 62 |

**Core Requirements:**

|                    |                                  |     |
|--------------------|----------------------------------|-----|
| MUCT 121, 122, 123 | Theory I                         | 12  |
| MUCT 221, 222, 223 | Theory II                        | 12  |
| MUCT 335           | Composition                      | 3   |
| MUCT 424           | Form and Analysis                | 3   |
| MUCT 425           | Orchestration                    | 3   |
| MUCT 426           | Counterpoint                     | 3   |
| MUHL 134           | The Art of Listening             | 3   |
| MUHL 321, 322, 323 | History of Music                 | 12  |
| MUPF 361           | Basic Conducting                 | 2   |
| MUPF               | Conducting (other)               | 2   |
| MUPF               | Organizations                    | 12  |
| MUPF               | *Applied Music (one area)        | 48  |
| MUPF 487           | Recital (junior and senior year) |     |
|                    |                                  | 115 |

\*Twenty hours in the primary performance area must be upper division. A maximum of 3 hours of MUPF 127 may apply on the major. Keyboard majors will complete MUPF 351, 352, 353. Piano majors will complete MUED 334. Organ majors will complete MUED 324. Voice majors will complete MUED 251, 252, 253; MUED 354. Instrumental majors will complete the techniques and materials class related to their performance area.

**MAJOR IN MUSIC (Bachelor of Arts)**

A student majoring in music must complete 66 quarter hours in the major and the general studies program for the baccalaureate degree as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general and subject (Music) sections.

**Major Requirements:**

|                                                                                                                                         |                                                                                 |    |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----|
| MUCT 121, 122, 123                                                                                                                      | Theory I                                                                        | 12 |
| MUCT 221, 222, 223                                                                                                                      | Theory II                                                                       | 12 |
| MUCT 424                                                                                                                                | Form and Analysis                                                               | 3  |
| MUCT 426                                                                                                                                | Counterpoint                                                                    | 3  |
| MUHL 134                                                                                                                                | The Art of Listening                                                            | 3  |
| MUHL 321, 322, 323                                                                                                                      | History of Music                                                                | 12 |
| MUPF                                                                                                                                    | Applied Music <sup>1</sup> (6 must be upper division in major performance area) | 15 |
| MUPF 487                                                                                                                                | *Recital                                                                        | 0  |
|                                                                                                                                         |                                                                                 |    |
| *A conducting or composition recital, or research project, as approved by the music faculty, may be substituted for the senior recital. |                                                                                 |    |
| Electives <sup>2</sup>                                                                                                                  |                                                                                 | 6  |
|                                                                                                                                         |                                                                                 | 66 |

1. A maximum of 3 hours of MUPF 127 may apply on the major. Six hours in the primary performance area must be upper division. With music faculty permission, students may substitute additional hours in upper division theory and composition position for this requirement, once upper division performance status is attained.
2. Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

**MINOR IN MUSIC**

A student minoring in music must complete 30 quarter hours:

|                            |                                                                                                                                                                 |                            |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| MUCT 121, 122, 123         | Theory I                                                                                                                                                        | 12                         |
| MUHL 124<br>or<br>MUHL 134 | Introduction to Music<br>The Art of Listening<br>*Applied Music (3 must be upper division)<br>Electives (2 must be upper division; a solo recital is required.) | 3-4<br>8<br>6-7<br>—<br>30 |

\*A maximum of 3 hours of MUPF 127 may apply on the minor.

Participation in an ensemble appropriate to the applied area is required during each quarter of performance studies.



Comet Band in the 1890's

**COMPOSITION AND THEORY (MUCT)****MUCT 101 FUNDAMENTALS OF MUSIC**

2

Introduction to the elements of notation, rhythm, scales, key signatures and terms, and reading skills. Does not apply toward a major or minor. Will not be offered 1991-92.

**MUCT 121, 122, 123 THEORY I**

4, 4, 4

Intensive study of traditional harmonic concepts up to and including secondary dominants. Aural skills (sightsinging and ear training) are integrated throughout. Prerequisite: passing of an entrance examination.

**MUCT 221, 222, 223 THEORY II**

4, 4, 4

Study of music theory, emphasizing melodic and harmonic developments of the late nineteenth and twentieth centuries. Aural skills (sightsinging and ear training) are integrated throughout. Prerequisites: MUCT 121, 122, 123; MUHL 134.

## MUSIC

**MUCT 234 INTRODUCTION TO ELECTRONIC MUSIC** 2  
Introduction to electronic music, including lectures, demonstrations, and practical experience in the use of tape recorders and synthesizers for the production of electronic music. Will not be offered 1991-92.

**MUCT 335 COMPOSITION** 1-2; 6  
Study of the art of composing in the smaller forms; emphasizes twentieth century techniques. Prerequisites: MUCT 221, 222, 223 and/or the permission of the instructor.

**MUCT 424 FORM AND ANALYSIS** 3  
Detailed study of musical structure. Prerequisites: MUCT 221, 222, 223 or permission of instructor.

**MUCT 425 ORCHESTRATION** 3  
Practical consideration of the techniques, capabilities, and effective uses of orchestral instruments in various combinations; includes scoring for small and large combinations of instruments. Prerequisite: MUCT 424. Will not be offered 1991-92.

**MUCT 426 COUNTERPOINT** 3  
Study of the more intricate forms of contrapuntal writing such as motet, canon, and fugue. Prerequisites: MUCT 221, 222, 223 or permission of instructor. Offered even years only.

**MUCT 434 ADVANCED COMPOSITION** 1-3; 3  
Advanced composition in the larger forms. Prerequisite: MUCT 335 and/or permission of instructor.

## MUSIC EDUCATION (MUED)

**MUED 251, 252, 253 SINGER'S DICTION** 1, 1, 1  
Study of Italian, German, and French phonetics. Required of all voice majors. May be waived by demonstrated proficiency.

**MUED 261, 262 BRASS TECHNIQUES AND METHODS** 1, 1  
Class instruction in the performance and teaching of brass instruments. Prerequisite: fundamental ability on at least one brass instrument and permission of the instructor. Offered odd years only.

**MUED 271, 272 WOODWIND TECHNIQUES AND METHODS** 1, 1  
Class instruction in the performance and teaching of woodwind instruments. Prerequisite: fundamental ability on at least one woodwind instrument and permission of the instructor. Offered odd years only.

**MUED 281, 282 STRING TECHNIQUES AND METHODS** 1, 1  
Class instruction in the performance and teaching of string instruments. Prerequisite: fundamental ability on at least one string instrument and permission of the instructor. Will not be offered 1991-92.

**MUED 291, 292 PERCUSSION TECHNIQUES AND METHODS** 1, 1  
Class instruction in the performance and teaching of percussion instruments. Will not be offered 1991-92.

**MUED 324 ORGAN PEDAGOGY AND LITERATURE** 3  
Study in the teaching of organ, including a survey of materials, repertoire, and techniques. Offered odd years only.

**MUED 334 PIANO PEDAGOGY AND LITERATURE** 3  
Study of the teaching of piano, including a survey of materials, repertoire, and techniques. Offered even years only. By permission only.

**MUED 354 VOCAL TECHNIQUES AND METHODS** 3  
Study of vocal production and instruction, including a survey of materials. Will not be offered 1991-92.

**MUED 364 MINISTRY OF MUSIC** 4  
 Study of music and its relationship to the pastoral and evangelical ministry of the church; representative service music and hymnody. Will not be offered 1991-92.

**MUED 394 MUSIC IN THE ELEMENTARY SCHOOL** 3  
 An overview of objectives, procedures, and materials in music education for kindergarten through grade eight. For elementary education majors only.

**MUED 395 ELEMENTARY SCHOOL MUSIC METHODS AND MATERIALS** 4  
 A comprehensive study of objectives, procedures, and materials in music education for kindergarten through grade eight. Prerequisite: Permission of instructor. Will not be offered 1991-92.

**MUED 396 SECONDARY MUSIC METHODS** 3  
 Study of objectives, procedures, and materials in music education for grades seven through twelve. By permission of the instructor only. Will not be offered 1991-92.

### MUSIC HISTORY AND LITERATURE (MUHL)

**MUHL 124 INTRODUCTION TO MUSIC** 4  
 Introduction to music; includes perception of its elements, recognition of its forms, and an awareness of historical perspective. May not apply toward a music major.

**MUHL 134 THE ART OF LISTENING** 3  
 Development of listening skills for the study of various elements of music as used in selected works from the standard repertoire. Required laboratory. Prerequisite: Permission of instructor.

**MUHL 321, 322, 323 HISTORY OF MUSIC** 4, 4, 4  
 The history and literature of music from antiquity through the twentieth century. Prerequisite: MUHL 134. Permission of instructor.

### MUSIC PERFORMANCE (MUPF)

#### ENSEMBLES

Membership in the performance groups listed below is by audition or invitation. These classes may be repeated for additional credit.

**MUPF 215 CHORAL UNION** 1  
 A large choir which performs major choral works and sings for church services.

**MUPF 245 I CANTORI** 1  
 A select choral group which specializes in music of the Renaissance and other works suitable for chamber groups.

**MUPF 255 CONCERT BAND** 1  
 A symphonic band. Local performances only.

**MUPF 256 BAND (WIND ENSEMBLE)** 1  
 A select touring concert band. Participation in Concert Band, MUPF 255, required.

**MUPF 265 BRASS CHOIR** 1  
 A select group of brass and percussion players emphasizing literature of 8-15 parts with and without percussion.

**MUPF 266 ORCHESTRA** 1  
 An organization which performs representative orchestral literature from the Baroque era to the present. Graded S or NC.

## MUSIC

### MUPF 275 WALLA WALLA SYMPHONY ORCHESTRA

1

A community symphonic orchestra open to members of the college orchestra. Graded S or NC.

### MUPF 285 ENSEMBLE

1

Vocal or instrumental duos, trios, quartets, or larger groups under the direction of a music department staff member.



Music Faculty 1907-1908

## CONDUCTING

### MUPF 361 BASIC CONDUCTING

2

Study of basic techniques and the art of conducting musical ensembles of all kinds.

### MUPF 362 INSTRUMENTAL CONDUCTING TECHNIQUES AND MATERIALS

3

Study of advanced techniques, rehearsal procedures, repertoire, program building, and administration. Prerequisite: MUPF 361 or permission of instructor.

### MUPF 363 CHORAL CONDUCTING TECHNIQUES AND MATERIALS

3

Study of advanced techniques, rehearsal procedures, repertoire, program building, and administration. Prerequisite: MUPF 361 or permission of instructor.

### MUPF 364 INSTRUMENTAL CONDUCTING

2

Application of conducting techniques through practical experience with instrumental ensembles. Orchestral conducting emphasized. Prerequisites: MUPF 361 and permission of instructor.

### MUPF 365 CONDUCTING PRACTICUM

1, 2

Conducting activities and projects as approved by staff member in consultation with music faculty. May be repeated for additional credit. Prerequisites: MUPF 361 and permission of instructor.

**PERFORMANCE STUDIES (Lessons)**

One to four hours of performance studies may be earned each quarter. Nine 30-minute lessons per quarter and daily practice amounting to five clock hours a week will yield one quarter hour of credit. May be repeated for additional credit.

**MUPF 117 CLASS INSTRUCTION**

1

Class instruction in general or special areas of interest.

**MUPF 127 APPLIED MUSIC**

1-2

Introductory study in instrument or voice. Subject to approval of music faculty, up to three hours may be used to satisfy requirements for the primary performance area in a music major or minor.

**MUPF 227 APPLIED MUSIC**

1-4

Introductory study in instrument or voice; satisfies credit requirement for major and minor performance studies. Prerequisite: Approval by music faculty through examination.

**MUPF 327 APPLIED MUSIC**

1-2

Advanced study in instrument or voice; does not satisfy credit requirements for major performance studies. Prerequisites: MUPF 227 and approval of music faculty through examination.

**MUPF 351, 352, 353 ADVANCED KEYBOARD SKILLS**

1, 1, 1

Development of certain practical skills which keyboard persons may be called upon to exhibit in professional life such as transposition, score reading, reading from a figured bass, and simple improvisation. Required of keyboard majors. Prerequisite: Permission of instructor.

**MUPF 427 APPLIED MUSIC**

1-4

Advanced study in instrument or voice; satisfies credit requirements for major and minor performance studies. Prerequisites: MUPF 227 and approval of music faculty through examination.

**MUPF 479 DIRECTED RESEARCH/PROJECT**

1-3

An alternative to MUPF 487, Senior Recital, 0 credits; in Bachelor of Arts, Music.

**MUPF 487 SENIOR RECITAL**

0

Preparation of materials for recital in consultation with music with music staff member. Graded S or NC.



## **NONDEPARTMENTAL**

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### **COOPERATIVE EDUCATION**

\_\_\_\_\_, Director.

In selected programs, students may blend their academic study with career-related, paid, productive employment in business, industry, government, or social agencies. Co-op placements in various cities of the Northwest are arranged through the Director of Cooperative Education. Placements are either full or part-time. Duration of appointments is typically for one quarter but in many cases may be extended or repeated. Supervision and evaluation are the joint responsibility of a professor from the student's major field of study, the Coordinator of Cooperative Education, and the employment supervisor.

Participants in the Cooperative Education Program may gain valuable work experience, earn college credits and enjoy a significant financial advantage. Many of the usual costs of education cease or are reduced during the cooperative education experience, and the rates of pay often are quite attractive. Students wanting further information about placement should get in touch with the Coordinator of Cooperative Education at the Career Development Center. Further information is also available from faculty or student representatives in participating academic departments.

#### **Program Guidelines.**

The following are academic guidelines for the Cooperative Education program: (1) a minimum of 30 hours of approved activity/experience must be completed to have a Cooperative Education experience recorded on the transcript for 0 credit; (2) for each credit earned, a minimum of 30 hours of approved activity must be completed; (3) the Cooperative Education experience/credit is restricted to the major; (4) excess hours cannot be used toward general electives.

### **CAREER DEVELOPMENT (CDEV)**

#### **CDEV 210 CAREER EXPLORATION AND PREPARATION**

1

Development of career exploration and decision making skills, allowing student to implement appropriate job search strategies. This would include resume writing, interviewing techniques and development of positive work habits and attitudes.

### **PHILOSOPHY**

\_\_\_\_\_, Chair; Claude Barnett, Glen Greenwalt.

Philosophy courses should, in their manner and subject matter, encourage an understanding of and appreciation for philosophy as a distinct mode of inquiry.

### **MINOR IN PHILOSOPHY**

A student minoring in philosophy must complete 28 quarter hours.

|          |                                      |    |
|----------|--------------------------------------|----|
| PHIL 205 | Introduction to Philosophy           | 4  |
|          | Electives (4 must be upper division) | 24 |
|          |                                      | 28 |

Approval of philosophy adviser required.

**PHILOSOPHY (PHIL)****PHIL 204 ESSENTIALS OF CRITICAL REASONING** 4

Study of concepts and procedures basic to effective critical thinking, and extensive practice with material drawn from a variety of disciplines. Prerequisites: ENGL 121, 122, 123 or permission of the instructor. Will not be offered 89-90.

**PHIL 205 INTRODUCTION TO PHILOSOPHY** 4

Study of the nature and place of philosophy in human thought, its traditional as well as its more recent concerns and approaches. Includes readings from selected writings — classical and other — and practice in language analysis.

**PHIL 206 INTRODUCTION TO LOGIC** 4

Inquiry into the nature of argument, inference, proof, etc., and practice with formal and symbolic structures. Will not be offered 89-90.

**PHIL 305 MORAL PHILOSOPHY** 4

Philosophical investigation of major moral concepts such as duty, the good, the right, and the just and their application to problems concerning the individual and society. Readings will include the works of moral philosophers, both ancient and modern. Prerequisites: PHIL 205 or 206 or permission of instructor. Will not be offered 89-90.

**PHIL 306, 307 HISTORY OF PHILOSOPHY** 4, 4

Fall quarter: historical study of major philosophers and philosophical movements from the Pre-Socratics to Modern Philosophy. Winter quarter: modern philosophers since Descartes. Prerequisite: PHIL 205. Will not be offered 89-90.

**PHIL 407 PHILOSOPHY OF SCIENCE (or BIOL 407)** 4

See the Biology section of this bulletin.

**PHIL 412 PHILOSOPHY OF RELIGION (or RELT 412)** 4

See the Religion section of this bulletin.

**PHIL 440 PROBLEMS IN PHILOSOPHY** 4

Critical study of selected philosophers and their distinctive contributions to philosophical thought. Prerequisite: PHIL 205, PHIL 206. Will not be offered 89-90.

**PHIL 454 WESTERN POLITICAL AND SOCIAL THOUGHT (or PLSC 454; SOCI 454)** 4

See the History section of this bulletin.

**TEACHING LEARNING CENTER**

Dale Hepker, Director.

**GENERAL (GNRL)****GNRL 100 PRINCIPLES OF SYSTEMATIC STUDY** 2

Study of systematic and practical techniques used in college work

**READING (RDNG)****RDNG 100 DEVELOPMENTAL READING** 2, 2, 2; 6

Individualized instruction in reading, including comprehension, vocabulary, speed, and study skills essential for success in college studies. This course may be taken for up to six quarter hours during three quarters with materials being chosen to suit the individual's progress. Credit does not apply toward graduation.

**RDNG 191 ANALYTICAL READING SKILLS** 2

Study of advanced vocabulary, with emphasis on the student's major field, critical reading and review writing, speed, and specialized study skills.

## NURSING

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Frances Fickess, Dean; Carol Brown, Linda Casebolt (on leave), Verlene Meyer, Karen Tetz (on leave), Fred Troutman, Lois Whitchurch, Susan Williams, Caroline Wrightman.

The School of Nursing offers a four-year program leading to a baccalaureate degree with a major in nursing. The purpose of the program is to prepare professional nurses to function in a variety of settings and to provide a foundation for graduate study.

The freshmen and sophomore years of the nursing curriculum are taken on the College Place campus and include a combination of general studies, nursing cognates, and nursing courses. The junior and senior years are taken on the Portland, Oregon, campus. Courses are primarily nursing.

The Portland campus is located adjacent to the Portland Adventist Medical Center. The nursing education building houses teachers' offices, classrooms, and the library. The Howard F. Hansen Hall is the residence for students on the Portland campus.

The School has contractual agreements for student clinical experience in a variety of settings, including community hospitals, service agencies, home-care and extended care facilities, and schools.

Upon completion of the program, graduates are eligible to write the National Council Licensure Examination for Registered Nurses (NCLEX-RN) in the jurisdiction of choice.

### ACCREDITATION

The School is an agency member of the Council of Baccalaureate and Higher Degree Programs of the National League for Nursing and is fully accredited by the Board of Review of that body. The program is approved by the Washington State Board of Professional Nursing and by the Oregon Office of Educational Policy and Planning.

### ADMISSION

Applicants for the nursing major will apply for admission through the Admissions Office of the College. The procedure is the same for nursing majors as for all other majors.

**Registered Nurse Students.** Graduates of nursing from accredited diploma and community college programs who hold a current registered nurse license are admitted to the program. Placement in the program is individual and determined by transfer credits and/or by successful completion of optional validation examinations. Requirements for the admission of the registered nurse student include:

1. Copies of official transcripts from high school and all colleges attended.
2. A grade-point average of 2.50, both cumulative and in the nursing courses.
3. Oregon licensure as a registered nurse. A photocopy of the current license must be on file in the student folder at the School of Nursing.
4. A letter of recommendation from the director of the school of nursing from which the applicant graduated.
5. Completion of prerequisite courses, general studies, and cognate courses as planned with the academic adviser.
6. Completion of all validation examinations (necessary for clinical placement).

**Transfer Courses:** The School of Nursing reviews each transcript and determines equivalency and eligibility for nursing credit.

**Credit by Examination:** The College has provision for establishing credit by challenge, by CLEP, and by validation examinations. Junior level nursing courses may be validated by successful completion of the National League for Nursing's *Nursing Mobility Profile II* exam.

## PROGRAM INFORMATION

The dean of the School of Nursing maintains offices in College Place, Washington, and in Portland, Oregon. Students who need special information or assistance with program planning may correspond with the dean at 10345 S.E. Market, Portland, OR 97216.

## PROGRESSION IN THE PROGRAM

**Admission to Clinical Nursing Courses.** Admission to NRSG 211, 212, and 213 is subject to approval of the School of Nursing. Criteria for admission to clinical courses include:

1. Admission to the college as a student in good standing.
2. Cumulative grade-point average of 2.50.
3. Students with a cumulative grade-point average of less than 2.50, but more than 2.25, may be admitted to NRSG 211 on a probationary basis.
4. Computer literacy.

**Continuation in the Program.** Student must maintain a grade-point average of 2.50, both cumulative and in nursing courses in order to progress as a nursing major. Those students who take a W or who receive a grade lower than C in any nursing course or a C- in any required cognate course are required to repeat that course. Permission to continue as a nursing major after the second W or second grade lower than a C in a nursing course is granted at the discretion of the faculty in response to student petition.

To receive a passing grade in clinical nursing courses, students must successfully complete both the theory and clinical portions of the course. Anyone receiving a grade lower than C in either the theory or clinical portion of a course must successfully repeat both the theory and clinical portions before further progression in the program.

Students who are judged to be unsafe practitioners may be removed from the clinical area and are subject to dismissal as nursing majors.

**Upper Division Courses.** All 300 and 400 level nursing courses are offered on the Portland campus. Students should plan their course of study in order to come to the Portland campus in the autumn quarter.

The following criteria must be fulfilled prior to coming to the Portland campus and registering for any 300 level nursing course:

1. Grade-point average of 2.50 in nursing and 2.50 cumulative.
2. Completion of all the following:

### Nursing Courses:

|          |                                           |   |
|----------|-------------------------------------------|---|
| NRSG 210 | Introduction to Nursing                   | 3 |
| NRSG 211 | Fundamentals of Nursing                   | 4 |
| NRSG 212 | Health Assessment and the Nursing Process | 4 |
| NRSG 213 | Pharmacology in Nursing                   | 4 |

## NURSING

### Required Cognates:

|                    |                                         |    |
|--------------------|-----------------------------------------|----|
| BIOL 201, 202      | Anatomy and Physiology                  | 8  |
| BIOL 222           | Microbiology                            | 5  |
| CHEM 101, 102, 103 | Introductory Chemistry                  | 11 |
| CPTR 105           | Personal Computing                      | 3  |
| HLSC 220           | Human Nutrition                         | 4  |
| MATH 106           | Applied Statistics                      | 4  |
| PSYC 130           | General Psychology                      | 4  |
| SOCI 204           | General Sociology                       | 4  |
| SOCI 324           | Human Development and the Family        | 4  |
| or                 |                                         |    |
| PSYC 215           | Psychology of Childhood and Adolescence | 4  |
| SPCH 101           | Fundamentals of Speech Communication    | 4  |

### General Studies:

|                    |                                                                         |    |
|--------------------|-------------------------------------------------------------------------|----|
| ENGL 121, 122, 123 | *Health and Physical Education (activity courses)                       | 2  |
|                    | *History                                                                | 8  |
|                    | *Humanities (fine arts, literature, philosophy)                         | 12 |
|                    | College Writing                                                         | 8  |
|                    | *Religion and Theology (minimum of 4 quarter hours in Biblical Studies) | 16 |

\*See the General Studies section of this Bulletin.

### TRANSPORTATION

The student is responsible for personal transportation to agencies and institutions used for educational experience. Because public transportation is not always available, the student needs access to a car during the sophomore and junior years. The use of an automobile is mandatory during the senior quarter in which the student has community health nursing. Students are responsible for maintaining a current, valid driver's license and at least the minimum state required automobile insurance. Transportation costs will vary from quarter to quarter.

### STUDENT HANDBOOK

The School of Nursing provides each student with a copy of its Handbook. Students have the responsibility to acquaint themselves with its contents and are held accountable for all policies therein.

### MAJOR IN NURSING (Bachelor of Science)

A student majoring in nursing must complete 83 quarter hours in nursing courses, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

**Major Requirements:** A minimum grade-point average of 2.50 is required. No grade lower than C will apply.

|          |                                           |   |
|----------|-------------------------------------------|---|
| NRSG 210 | Introduction to Nursing                   | 3 |
| NRSG 211 | Fundamentals of Nursing                   | 4 |
| NRSG 212 | Health Assessment and the Nursing Process | 4 |

|          |                                      |       |
|----------|--------------------------------------|-------|
| NRSG 213 | Pharmacology in Nursing              | 4     |
| NRSG 321 | Nursing of the Acutely Ill Adult     | 8     |
| NRSG 325 | Research in Nursing                  | 3     |
| NRSG 331 | Mental Health Nursing                | 8     |
| NRSG 342 | Nursing of the Childbearing Family   | 6     |
| NRSG 343 | Nursing of the Childrearing Family   | 6     |
| NRSG 351 | Pathophysiology I                    | 2     |
| NRSG 352 | Pathophysiology II                   | 2     |
| NRSG 421 | Nursing of the Chronically Ill Adult | 8     |
| NRSG 425 | Gerontology in Nursing               | 2     |
| NRSG 431 | Nursing Management                   | 4     |
| NRSG 433 | Topics in Nursing                    |       |
| or       |                                      |       |
| NRSG 490 | Nursing Practicum                    | 2     |
| or       |                                      |       |
| NRSG 494 | Cooperative Education                |       |
| NRSG 435 | Critical Care Nursing                | 4     |
| NRSG 441 | Community Health Nursing             | 8     |
| NRSG 445 | Issues and Trends in Nursing         | 3     |
|          |                                      | <hr/> |
|          |                                      | 83    |

**Cognates:** A minimum grade-point average of 2.50 is required. No grade lower than a C will apply.

|                    |                                                     |    |
|--------------------|-----------------------------------------------------|----|
| ANTH 225           | Cultural Anthropology                               | 3  |
| BIOL 201, 202      | Anatomy and Physiology                              | 8  |
| BIOL 222           | Microbiology                                        | 5  |
| CHEM 101, 102, 103 | Introductory Chemistry                              | 11 |
| CPTR 105           | Personal Computing<br>(or demonstrated proficiency) | 3  |
| HLSC 220           | Human Nutrition                                     | 4  |
| MATH 106           | Applied Statistics                                  | 4  |
| PSYC 130           | General Psychology                                  | 4  |
| SOCI 204           | General Sociology                                   | 4  |
| SOCI 324           | Human Development and the Family                    |    |
| or                 |                                                     |    |
| PSYC 215           | Psychology of Childhood and Adolescence             | 4  |
| SPCH 101           | Fundamentals of Speech Communication                | 4  |

## NURSING (NRSG)

### NRSG 210 INTRODUCTION TO NURSING

3

Introduction to professional nursing practice, education, and health maintenance. Includes concepts on historical perspectives, current trends, human needs, nursing process, and lifestyle practices necessary to prevent illness. Provides basis for developing effective communication skills and helping relationships. Prerequisites: BIOL 201, 202; PSYC 130; SOCI 204.

### NRSG 211 FUNDAMENTALS OF NURSING

4

Emphasis on developing beginning skills and knowledge of the nursing process; learning experiences in an adult acute or chronic health care facility. Prerequisites: CHEM 101, 102. Prerequisites or corequisites: BIOL 222; FDNT 220; NRSG 210; SOCI 224.

## NURSING

|                                                                                                                                                                                                                                                                                                      |         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>NRSG 212 HEALTH ASSESSMENT AND THE NURSING PROCESS</b>                                                                                                                                                                                                                                            | 4       |
| Emphasis on the nursing process and physical assessment of children and adults. Includes introduction to psychosocial, spiritual, developmental, and nutritional assessment; learning experiences in a health care facility. Prerequisite: NRSG 211.                                                 |         |
| <b>NRSG 213 PHARMACOLOGY IN NURSING</b>                                                                                                                                                                                                                                                              | 4       |
| Introduction to the major classifications of therapeutic drugs. Clinical experience includes the administration of drugs to clients in a chronic or acute care setting. Prerequisite: NRSG 211. Prerequisite or corequisite: NRSG 212.                                                               |         |
| <b>NRSG 321 NURSING OF THE ACUTELY ILL ADULT</b>                                                                                                                                                                                                                                                     | 8       |
| Nursing care of clients experiencing alterations in cardiovascular, respiratory, renal, gastrointestinal, and biliary function in an acute care facility with emphasis on use of the nursing process. Practicum included. Prerequisite: NRSG 213. Corequisite: NRSG 351.                             |         |
| <b>NRSG 325 RESEARCH IN NURSING</b>                                                                                                                                                                                                                                                                  | 3       |
| The research process as applied to nursing, including critiques of published nursing research, methodology, and statistical analysis. Development of a research proposal is required. Prerequisites: MATH 106 or equivalent; ENGL 123.                                                               |         |
| <b>NRSG 331 MENTAL HEALTH NURSING</b>                                                                                                                                                                                                                                                                | 8       |
| Nursing care of clients within the context of the family experiencing alterations in psychosocial behavior. Practicum included. Prerequisite: NRSG 213. Corequisite: NRSG 352.                                                                                                                       |         |
| <b>NRSG 342 NURSING OF THE CHILDBEARING FAMILY</b>                                                                                                                                                                                                                                                   | 6       |
| Focuses on families during the normal childbearing cycle. Introduces selected high-risk conditions. Attention is given to the neonatal period. Clinical experiences include the care of childbearing families in hospital, community, and home settings. Practicum included. Prerequisite: NRSG 213. |         |
| <b>NRSG 343 NURSING OF THE CHILDREARING FAMILY</b>                                                                                                                                                                                                                                                   | 6       |
| Focuses on the pediatric client within the context of the family. Emphasis is placed upon individual nursing care based on growth and development and the changes that occur with the disease process. Practicum included. Prerequisite: NRSG 213                                                    |         |
| <b>NRSG 351 PATHOPHYSIOLOGY I</b>                                                                                                                                                                                                                                                                    | 2       |
| Study of functional changes of the cardiovascular, respiratory, renal, gastrointestinal and biliary systems which accompany illness. Prerequisite: NRSG 213. Corequisite: NRSG 321.                                                                                                                  |         |
| <b>NRSG 352 PATHOPHYSIOLOGY II</b>                                                                                                                                                                                                                                                                   | 2       |
| Study of the various effects of neuropathology, endocrine disorders, and psychopathology on the human system. Prerequisite: NRSG 213. Corequisite: NRSG 331.                                                                                                                                         |         |
| <b>NRSG 421 NURSING OF THE CHRONICALLY ILL ADULT</b>                                                                                                                                                                                                                                                 | 8       |
| Nursing care of adult and aging clients experiencing long term alterations in health status with emphasis on use of the nursing process. Practicum included. Prerequisites: NRSG 321; NRSG 331; NRSG 341. Corequisite: NRSG 425.                                                                     |         |
| <b>NRSG 425 GERONTOLOGY IN NURSING</b>                                                                                                                                                                                                                                                               | 2       |
| Focus on the aging client within the context of the family. Uses nursing concepts related to health promotion, illness prevention, and provision of care.                                                                                                                                            |         |
| <b>NRSG 431 NURSING MANAGEMENT</b>                                                                                                                                                                                                                                                                   | 4       |
| Principles of management in the health care system and the relationship to leadership. Practicum included. Prerequisites: NRSG 321; NRSG 331; NRSG 341.                                                                                                                                              |         |
| <b>NRSG 433 TOPICS IN NURSING</b>                                                                                                                                                                                                                                                                    | 1, 2; 6 |
| Study of current topics of interest in professional nursing. May include papers or other projects.                                                                                                                                                                                                   |         |
| <b>NRSG 435 CRITICAL CARE NURSING</b>                                                                                                                                                                                                                                                                | 4       |
| Nursing care of clients experiencing life threatening alterations in body systems. Practicum included. Prerequisites: NRSG 321; NRSG 331; NRSG 341.                                                                                                                                                  |         |



Walla Walla College working together with Portland Sanitarium and Hospital formed the nursing program in February 1946

**NRSG 441 COMMUNITY HEALTH NURSING**

8

The body of knowledge from nursing, public health sciences, and organizational theories is applied through the nursing process to individuals, families, and groups within the community. Practicum included. Prerequisites: NRSG 321; NRSG 331; NRSG 342; NRSG 343.

**NRSG 445 ISSUES AND TRENDS IN NURSING**

3

Discussion of issues and trends affecting the practice of professional nursing and health care delivery.

**NRSG 490 NURSING PRACTICUM**

2·4; 4

Individual study arrangement involving students, faculty, and health care agencies to gain practical experience in an area of special interest. Prerequisite: Senior standing. Up to 4 hours may apply toward the major.

**NRSG 494 COOPERATIVE EDUCATION**

2; 4

Individual contract arrangement involving students, faculty, and cooperating health care agencies to gain practical nursing experience. Prerequisite: NRSG 213 and permission of the nursing faculty. Only two credits may apply toward the major.

## OFFICE ADMINISTRATION

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JoAnn Wiggins, Chair; Nancy Cleveland.

The Office Administration programs focus on developing the mental, technical, and problem-solving skills required of Christian office managers, prospective teachers, and support personnel in today's offices. Special emphasis is placed on integrating ethical behavior into both the human and systems aspects in a realistic way. Bachelor of Science degrees are offered in Office Administration and Business Education. The Associate of Science degree is offered in Administrative Assistant.

The B.S. in Office Administration program prepares graduates to assume responsible supervisory and office management positions in the business and professional world. Understanding the concepts of office organization, systems design and management, and the changing trends in office technology is emphasized in the course work for this major.

The Business Education program focuses on preparing prospective teachers for careers in secondary education or for training in the corporate setting. Choices may be made from concentrations in Accounting/Bookkeeping and Data Processing, Clerical Office Occupations, and Secretarial Occupations. Along with the major requirements from both the Business and Office Administration Departments, students working toward secondary certification will complete Washington state certification requirements as outlined in the Education and Psychology section of this bulletin.

The Associate of Science degree in Administrative Assistant qualifies office workers to assume responsibilities in today's technological office environment. Concentrations are offered in administrative and accounting areas. Specialization is achieved through office systems courses addressing the particular needs of each area. Cooperative work experience in the student's specialty blends education with on-the-job experience during the second year of the program. After successful completion of the A.S. program, students wishing to continue a B.S. degree in Office Administration or Business Education may do so without loss of credit.

### MAJOR IN OFFICE ADMINISTRATION (Bachelor of Science)

A student majoring in office administration must complete 52 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

#### Major Requirements:

|               |                                    |   |
|---------------|------------------------------------|---|
| OFAD 119      | Keyboarding and Word Processing II | 4 |
| OFAD 129      | Machine Transcription              | 3 |
| OFAD 131      | Alphabetic Shorthand               | 4 |
| OFAD 228      | Automated Office Applications      | 3 |
| OFAD 236      | Business Machines                  | 2 |
| OFAD 261, 262 | Records Management                 | 4 |
| OFAD 270      | Electronic Office Procedures       | 4 |
| OFAD 322      | Electronic Office Management       | 4 |
| OFAD 362      | Business Communications            | 4 |

|          |                               |           |
|----------|-------------------------------|-----------|
| OFAD 380 | Telecommunications            | 4         |
| OFAD 467 | Administrative Assistant      | 4         |
| OFAD 494 | Cooperative Education         | 1         |
| OFAD 496 | Office Administration Seminar | 1         |
|          | Electives                     | <u>10</u> |

Electives must be upper division, chosen in consultation with and approved by the academic adviser assigned by the department chair from approved Business and/or Office Administration courses.

**Cognates:**

|                                           |                                                          |    |
|-------------------------------------------|----------------------------------------------------------|----|
| ACCT 201, 202, 203<br>or<br>ACCT 205, 206 | Principles of Accounting }<br>Principles of Accounting } | 10 |
| CPTR 105                                  | Personal Computing                                       | 3  |
| ECON 211                                  | Principles of Macroeconomics                             | 4  |
| GBUS 361                                  | Business Law I                                           | 4  |
| GBUS 463                                  | Business Environment and Ethics                          | 3  |
| MGMT 371                                  | Management and Organizational Behavior                   | 4  |

**MAJOR IN BUSINESS EDUCATION (Bachelor of Science)**

A student majoring in business education must complete 64 quarter hours in the major, the required cognates, an area of concentration, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Students seeking certification should consult with the certification office in the Department of Education and Psychology for updated information regarding certification.

**Major Requirements:**

|                                           |                                                 |          |
|-------------------------------------------|-------------------------------------------------|----------|
| ACCT 201, 202, 203<br>or<br>ACCT 205, 206 | Principles of Accounting }                      | 10       |
| BUED 395                                  | Methods of Teaching Business Education Subjects | 4        |
| BUED 491                                  | Principles of Business Education                | 2        |
| BUED 496                                  | Seminar in Business Education                   | 2        |
| ECON 211                                  | Principles of Macroeconomics                    | 4        |
| ECON 212                                  | Principles of Microeconomics                    | 4        |
| GBUS 361                                  | Business Law I                                  | 4        |
| MGMT 371                                  | Management & Organizational Behavior            | 4        |
| MKTG 381                                  | Marketing                                       | 4        |
| OFAD 119                                  | Keyboarding and Word Processing II              | 4        |
| OFAD 129                                  | Machine Transcription                           | 3        |
| OFAD 236                                  | Business Machines                               | 2        |
| OFAD 261, 262                             | Records Management                              | 4        |
| OFAD 270                                  | Electronic Office Procedures                    | 4        |
| OFAD 322                                  | Electronic Office Management                    | 4        |
| OFAD 362                                  | Business Communications                         | 4        |
| OFAD 494                                  | Cooperative Education                           | <u>1</u> |

64

## OFFICE ADMINISTRATION

### Cognates:

|          |                               |   |
|----------|-------------------------------|---|
| CPTR 105 | Personal Computing            | 3 |
| MATH 106 | Applied Statistics            | 4 |
| MKTG 384 | Consumer Behavior             | 4 |
| PSYC 489 | Vocational Development Theory | 3 |

### CONCENTRATION: Accounting/Bookkeeping - Data Processing Occupations

|          |                            |    |
|----------|----------------------------|----|
| ACCT 222 | Accounting Projects        | 2  |
| ACCT 331 | Managerial Cost Accounting | 3  |
| MIS 186  | Intermediate Database      | 2  |
| MIS 187  | Intermediate Spreadsheet   | 2  |
| MIS 285  | Computer Principles        | 2  |
| MIS 301  | Introduction to Management | 3  |
|          | Information Systems        |    |
|          | Electives                  | 3  |
|          |                            | 17 |

### CONCENTRATION: Clerical Office Occupations

|          |                               |    |
|----------|-------------------------------|----|
| OFAD 131 | Alphabetic Shorthand          | 4  |
| OFAD 117 | Word Processing               | 2  |
| OFAD 228 | Automated Office Applications | 3  |
|          | Electives                     | 8  |
|          |                               | 17 |

### CONCENTRATION: Secretarial Occupations

|          |                              |   |
|----------|------------------------------|---|
| OFAD 476 | Motivation and Leadership    | 4 |
| OFAD 467 | The Administrative Assistant | 4 |
|          | Electives                    | 9 |

Electives must be upper division, chosen in consultation with and approved by the academic adviser assigned by the department chair from approved Business and/or Office Administration courses.

17

### ADMINISTRATIVE ASSISTANT (Associate of Science)

A student specializing in this program must complete 29 quarter hours in the core, the required cognates, one area of concentration, the general studies program, and all associate degree requirements as outlined in this bulletin.

#### Core Requirements:

|               |                                      |    |
|---------------|--------------------------------------|----|
| OFAD 119      | Keyboarding and Word Processing II   | 4  |
| OFAD 129      | Machine Transcription                | 3  |
| OFAD 228      | Automated Office Applications        | 3  |
| OFAD 236      | Business Machines                    | 3  |
| OFAD 261, 262 | Records Management                   | 4  |
| OFAD 264      | Traditions and Practices of Business | 3  |
| OFAD 270      | Electronic Office Procedures         | 4  |
| OFAD 362      | Business Communications              | 4  |
| OFAD 494      | Cooperative Education                | 1  |
|               |                                      | 29 |

**Cognates:**

|          |                               |   |
|----------|-------------------------------|---|
| ACCT 201 | Principles of Accounting      | 4 |
| CPTR 105 | Personal Computing            | 3 |
| FINA 101 | Personal Finance              | 2 |
| MATH 105 | Mathematics with Applications | 4 |

**CONCENTRATION: Accounting Assistant**

|               |                          |           |
|---------------|--------------------------|-----------|
| ACCT 202, 203 | Principles of Accounting | 6         |
| ACCT 222      | Accounting Projects      | 2         |
| MIS 187       | Intermediate Spreadsheet | 2         |
|               | Electives                | 12        |
|               |                          | <u>22</u> |

**CONCENTRATION: Office Assistant**

|          |                              |           |
|----------|------------------------------|-----------|
| GRPH 271 | Computer Assisted Publishing | 2         |
| OFAD 131 | Alphabetic Shorthand         | 4         |
| MIS 186  | Intermediate Database        | 2         |
|          | Electives                    | 14        |
|          |                              | <u>22</u> |

Electives must be chosen in consultation with and approved by the adviser as signed by the department chair from approved Business and/or Office Administration courses.

**MINOR IN OFFICE ADMINISTRATION**

A student minoring in Office Administration must complete 30 quarter hours:

|          |                                    |           |
|----------|------------------------------------|-----------|
| OFAD 119 | Keyboarding and Word Processing II | 4         |
| OFAD 129 | Machine Transcription              | 3         |
| OFAD 236 | Business Machines                  | 2         |
| OFAD 270 | Electronic Office Procedures       | 4         |
| OFAD 322 | Electronic Office Management       | 4         |
| OFAD 362 | Business Communications            | 4         |
|          | Electives                          | 9         |
|          |                                    | <u>30</u> |

Approval of Office Administration adviser required.

**BUSINESS EDUCATION (BUED)**

**BUED 395 METHODS OF TEACHING BUSINESS EDUCATION SUBJECTS** 4  
Survey of the objectives, methods, and techniques of teaching business education subjects in the secondary school; requires observation, demonstration, and class presentations. Will not be offered 1991-92.

**BUED 474 WORKSHOP IN BUSINESS EDUCATION** 2  
Study of a major program or area of business education in terms of plans, procedures, materials, research, and individual projects; techniques and methods designed to improve instructional competency. May be repeated.

**BUED 491 PRINCIPLES OF BUSINESS EDUCATION** 2  
Study of trends and current developments in business education. Will not be offered 1991-92.

**BUED 496 SEMINAR IN BUSINESS EDUCATION** 2  
Study of a specific topic pertinent to business education. Topics may include consumer economic education, school and community relations, tests and measurements in business education, or audio-visual aids for use in business education.

## OFFICE ADMINISTRATION

### OFFICE ADMINISTRATION (OFAD)

#### OFAD 115 KEYBOARDING AND WORD PROCESSING I

3

Introduction or review of touch keyboarding for the beginning typist. Individualized instruction places emphasis on basic techniques, speed, and accuracy. Basic word processing and formatting skills are developed. Not open to challenge examination. Does not apply toward a major or minor for the Bachelor of Science degree or as an elective for the Associate of Science degree.

#### OFAD 117 WORD PROCESSING

2

Introduction to word processing concepts and terminology presented in computer laboratory setting. Designed to enable students to produce documents using word processing functions. Prerequisite: OFAD 115, or equivalent keyboarding proficiency.

#### OFAD 119 KEYBOARDING AND WORD PROCESSING II

4

Advanced keyboarding with emphasis on speedbuilding, accuracy, and utilizing word processing techniques and skills in the production of business documents and correspondence. Prerequisite: OFAD 115 or equivalent.

#### OFAD 129 MACHINE TRANSCRIPTION

3

Laboratory practice in transcribing letters from machine dictation. Students reinforce skills in punctuation, grammar, spelling, and proofreading. Prerequisite: OFAD 115 or equivalent.

#### OFAD 131 ALPHABETIC SHORTHAND

4

A study of abbreviated note taking principles designed to develop speed and accuracy in writing and transcribing notes for professional, vocational, and personal use. Prerequisite: OFAD 115 or equivalent.

#### OFAD 228 AUTOMATED OFFICE APPLICATIONS

3

The development of advanced word processing skills and experience in current office procedures and applications using the microcomputer. Prerequisite: OFAD 117 or 119.



Penmanship Class 1903

|                                                                                                                                                                                                                                                                                                                            |             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>OFAD 236 BUSINESS MACHINES</b>                                                                                                                                                                                                                                                                                          | <b>1-3</b>  |
| A laboratory course designed to develop proficiency in the use of electronic calculators and dictation equipment. The one credit option covers calculators, the two credit option adds dictation equipment, and the three credit option adds business mathematics.                                                         |             |
| <b>OFAD 261, 262 RECORDS MANAGEMENT</b>                                                                                                                                                                                                                                                                                    | <b>2, 2</b> |
| Study of the organization of records management systems, including procedures, equipment, personnel, and control.                                                                                                                                                                                                          |             |
| <b>OFAD 264 TRADITIONS AND PRACTICES OF BUSINESS</b>                                                                                                                                                                                                                                                                       | <b>3</b>    |
| Study of business law topics that have been recommended by the United States Office of Education for secretaries and related office workers; emphasizes contracts and negotiable instruments. Designed for associate degree students.                                                                                      |             |
| <b>OFAD 270 ELECTRONIC OFFICE PROCEDURES</b>                                                                                                                                                                                                                                                                               | <b>4</b>    |
| Study of office procedures with emphasis on the tasks performed by support staff with electronic equipment, new technologies, and the organizational styles used in today's office. Prerequisites: OFAD 129, 262.                                                                                                          |             |
| <b>OFAD 280 PRACTICUM IN OFFICE ADMINISTRATION</b>                                                                                                                                                                                                                                                                         | <b>1-8</b>  |
| Laboratory work in a specialized area chosen in counsel with the laboratory instructor. Thirty laboratory hours per credit.                                                                                                                                                                                                |             |
| <b>OFAD 301 LEGAL TERMINOLOGY AND TRANSCRIPTION</b>                                                                                                                                                                                                                                                                        | <b>3</b>    |
| Study of legal terminology and skills in formatting and transcribing legal documents. Prerequisite: OFAD 129 or permission of instructor.                                                                                                                                                                                  |             |
| <b>OFAD 303 MEDICAL TERMINOLOGY AND TRANSCRIPTION</b>                                                                                                                                                                                                                                                                      | <b>3</b>    |
| Study of the development of the basic medical vocabulary; includes practice in the transcription of medical reports from machine dictation. Prerequisites: BIOL 201, 202 or equivalent; OFAD 129, or permission of instructor.                                                                                             |             |
| <b>OFAD 322 ELECTRONIC OFFICE MANAGEMENT</b>                                                                                                                                                                                                                                                                               | <b>4</b>    |
| Study of the role of the office manager in relation to office trends, technology, systems, and operations. Emphasis will be given to the responsibilities of support staff management, including forms design and control, office design and environment, office productivity, and time management.                        |             |
| <b>OFAD 362 BUSINESS COMMUNICATIONS</b>                                                                                                                                                                                                                                                                                    | <b>4</b>    |
| Study of the principles basic to effective communication in the business setting, with emphasis on individual and group business writing and presentations. Prerequisite: typing proficiency or OFAD 115.                                                                                                                  |             |
| <b>OFAD 380 TELECOMMUNICATIONS</b>                                                                                                                                                                                                                                                                                         | <b>4</b>    |
| A study of telecommunication technology and devices. Instructional content will include telephone-related services, voice mail, teleconferencing, facsimile transmission, electronic mail, networking technologies, data communications, telecommuting, and data security. Offered odd years only. Prerequisite: CPTR 105. |             |
| <b>OFAD 467 THE ADMINISTRATIVE ASSISTANT</b>                                                                                                                                                                                                                                                                               | <b>4</b>    |
| Emphasis on organizing work flow, prioritizing, ethical decision-making, and problem-solving in modern offices. Study of selected topics in preparation for the CPS (Certified Professional Secretary examination). Prerequisite: OFAD 270.                                                                                |             |
| <b>OFAD 494 COOPERATIVE EDUCATION</b>                                                                                                                                                                                                                                                                                      | <b>0-4</b>  |
| Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisites: Approval by department; CDEV 210 or permission of Cooperative Education Director. Graded S or NC.   |             |
| <b>OFAD 496 OFFICE ADMINISTRATION SEMINAR</b>                                                                                                                                                                                                                                                                              | <b>1-3</b>  |
| Discussion, research, special problems, analysis of new trends in the field, and study of the major areas in office administration. For majors only.                                                                                                                                                                       |             |

# PHYSICS

Gordon Johnson, Chair; Claude Barnett, Fred Liebrand.

The department offers a Bachelor of Arts degree and a Bachelor of Science degree with a major in physics, and jointly with the department of biology, a major in biophysics. The physics major who is preparing for secondary teaching will normally choose the Bachelor of Arts degree, including the certification requirements as outlined in the Education and Psychology section of this bulletin. The Bachelor of Science degree is designed to prepare the student for graduate study, careers in applied or basic research, or college teaching. The interdisciplinary major in biophysics should best fill the needs of the student who plans a career in medicine or who plans on research and advanced study into the physics of living systems. For entrance, 30 semester periods of secondary mathematics chosen from algebra, plane and solid geometry, and trigonometry are required.

## MAJOR IN PHYSICS (Bachelor of Arts)

A student majoring in physics must complete 48 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general and subject (Physics) sections.

### Major Requirements:

|                                                                                                                                  |                                                                                             |        |
|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------|
| PHYS 114                                                                                                                         | Perspectives in Physics                                                                     | 1      |
| PHYS 115, 116                                                                                                                    | Introduction to Experimentation                                                             | 2      |
| PHYS 251, 252, 253                                                                                                               | *Principles of Physics                                                                      | 9      |
| PHYS 254, 255, 256                                                                                                               | Principles of Physics Laboratory                                                            | 3      |
| PHYS 311                                                                                                                         | Modern Physics                                                                              | 3      |
| PHYS 312                                                                                                                         | Physical Electronics                                                                        | 3      |
| PHYS 313                                                                                                                         | Thermodynamics                                                                              | 4      |
| PHYS 314                                                                                                                         | Modern Physics Laboratory                                                                   | 1      |
| PHYS 315                                                                                                                         | Physical Electronics Laboratory                                                             | 1      |
| PHYS 316                                                                                                                         | Optics Laboratory                                                                           | 1      |
| PHYS 317, 318, 319                                                                                                               | Physics Seminar I                                                                           | 3      |
| PHYS 321, 322                                                                                                                    | Optics                                                                                      | 6      |
| PHYS 401, 402<br>or<br>PHYS 421<br>and<br>PHYS 422<br>PHYS 417, 418, 419                                                         | Electricity and Magnetism<br>Classical Mechanics<br>Quantum Mechanics<br>Physics Seminar II | 8<br>3 |
| *Students who have completed PHYS 211, 212, 213 may meet the PHYS 251, 252, 253 requirement by passing a department examination. |                                                                                             | 48     |

### Cognates:

|                    |                                      |    |
|--------------------|--------------------------------------|----|
| CHEM 141, 142, 143 | General Chemistry                    | 9  |
| CHEM 144, 145, 146 | General Chemistry Laboratory         | 3  |
| CPTR 141           | Introduction to Programming (Pascal) | 4  |
| MATH 181, 281-283  | Analytic Geometry and Calculus I-IV  | 16 |
| MATH 315           | Probability and Statistics           | 4  |

## MAJOR IN PHYSICS (Bachelor of Science)

A student majoring in physics must complete 63 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general and subject (Physics) sections.

### Major Requirements:

|                                                                                                                                  |                                  |    |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----|
| PHYS 114                                                                                                                         | Perspectives in Physics          | 1  |
| PHYS 115, 116                                                                                                                    | Introduction to Experimentation  | 2  |
| PHYS 251, 252, 253                                                                                                               | *Principles of Physics           | 9  |
| PHYS 254, 255, 256                                                                                                               | Principles of Physics Laboratory | 3  |
| PHYS 311                                                                                                                         | Modern Physics                   | 3  |
| PHYS 312                                                                                                                         | Physical Electronics             | 3  |
| PHYS 313                                                                                                                         | Thermodynamics                   | 4  |
| PHYS 314                                                                                                                         | Modern Physics Laboratory        | 1  |
| PHYS 315                                                                                                                         | Physical Electronics Laboratory  | 1  |
| PHYS 316                                                                                                                         | Optics Laboratory                | 1  |
| PHYS 317, 318, 319                                                                                                               | Physics Seminar I                | 3  |
| PHYS 321, 322                                                                                                                    | Optics                           | 6  |
| PHYS 401, 402                                                                                                                    | Electricity and Magnetism        | 8  |
| PHYS 414, 415, 416                                                                                                               | Experimental Physics             | 3  |
| PHYS 417, 418, 419                                                                                                               | Physics Seminar II               | 3  |
| PHYS 421                                                                                                                         | Classical Mechanics              | 4  |
| PHYS 422, 423                                                                                                                    | Quantum Mechanics                | 8  |
| *Students who have completed PHYS 211, 212, 213 may meet the PHYS 251, 252, 253 requirement by passing a department examination. |                                  | 63 |

### Cognates:

|                    |                                                        |    |
|--------------------|--------------------------------------------------------|----|
| CHEM 141, 142, 143 | General Chemistry                                      | 9  |
| CHEM 144, 145, 146 | General Chemistry Laboratory                           | 3  |
| CPTR 141           | Introduction to Programming (Pascal)                   | 4  |
| ENGR 228           | Circuit Analysis                                       | 4  |
| ENGR 325           | Instrumentation                                        |    |
| or                 |                                                        |    |
| ENGR 354           | Digital Logic Circuits                                 | 3  |
| or                 |                                                        |    |
| CPTR 331           | Computers in the Laboratory                            |    |
| ENGR 366           | Vibrations (recommended; not required)                 | 3  |
| MATH 181, 281-283  | Analytic Geometry and Calculus I-IV                    | 16 |
| MATH 289           | Linear Algebra and Its Applications<br>(or equivalent) | 3  |
| MATH 312           | Ordinary Differential Equations                        | 4  |
| MATH 315           | Probability and Statistics                             | 4  |
| MATH 341           | Numerical Analysis                                     |    |
| or                 |                                                        |    |
| MATH 423           | Introduction to the Theory of Complex<br>Variables     | 4  |

## PHYSICS



*Physics Laboratory during the 1920's*

### MAJOR IN BIOPHYSICS (Bachelor of Science)

See the Interdisciplinary section of this bulletin.

### MINOR IN PHYSICS

A student minoring in physics must complete 27 quarter hours:

Electives (3 must be upper division)

27

Approval of physics adviser required.

### PHYSICS (PHYS)

#### ASTR 141, 142 GENERAL ASTRONOMY

4, 4

Introduction to modern astronomy with emphasis on the place of astronomy in man's cultural and scientific thought and experience; includes study of planets, moons, comets, meteors, the solar system as a unit; the sun, stars, galaxies, and the sidereal universe. Laboratory or night observation once a week. Prerequisite: Completion of general studies mathematics requirement.

#### PHYS 114 PERSPECTIVES IN PHYSICS

1

Study of the historical and philosophical development of contemporary ideas in the physical sciences. Examples of various historical experiments will be performed and discussed. Some time will be devoted to exploring careers in physics and related fields.

#### PHYS 115, 116 INTRODUCTION TO EXPERIMENTATION

1, 1

Introduction to the principles and practice of hypothesis testing, including physical measurement, experiment design, and data analysis; emphasizes the use of the computer for data acquisition, graphical presentation, and analysis of data and simple simulation. Prerequisite: CPTR 141 or equivalent.

#### PHYS 201, 202 INVITATION TO PHYSICS

3, 3

Investigation, explanation, and understanding of the natural world using the ideas and concepts of physics. Topics include mechanics, properties of matter, heat, sound, electricity and magnetism, light, atomic and nuclear physics, relativity, and astrophysics. Prerequisite: Completion of general studies mathematics requirement. Corequisites: PHYS 204, 205.

|                                                                                                                                                                                                                                                                                                                                                                                                                                          |         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| PHYS 204, 205 INVITATION TO PHYSICS LABORATORY                                                                                                                                                                                                                                                                                                                                                                                           | 1, 1    |
| Laboratory work integrated with PHYS 201, 202.                                                                                                                                                                                                                                                                                                                                                                                           |         |
| PHYS 211, 212, 213 GENERAL PHYSICS                                                                                                                                                                                                                                                                                                                                                                                                       | 3, 3, 3 |
| Introduction to mechanics, heat, sound, light, electricity, atomic and nuclear physics, elementary particles, quantum mechanics, and special relativity; designed primarily for nonphysics majors to acquaint them with the ideas and methods of physics for possible application to problems in other areas of human endeavor. Prerequisites: MATH 121, 122 or equivalent. Must be taken in sequence. Corequisites: PHYS 214, 215, 216. |         |
| PHYS 214, 215, 216 GENERAL PHYSICS LABORATORY                                                                                                                                                                                                                                                                                                                                                                                            | 1, 1, 1 |
| Laboratory work integrated with PHYS 211, 212, 213.                                                                                                                                                                                                                                                                                                                                                                                      |         |
| PHYS 251, 252, 253 PRINCIPLES OF PHYSICS                                                                                                                                                                                                                                                                                                                                                                                                 | 3, 3, 3 |
| Introduction to mechanics, relativity, thermodynamics, electromagnetism, wave motion, and optics; designed to provide the science and engineering major with an intuitive and a mathematical understanding of fundamental physical concepts. Must be taken in sequence. Prerequisites: MATH 181; MATH 281. Corequisites: PHYS 254, 255, 256; MATH 282, 283.                                                                              |         |
| PHYS 254, 255, 256 PRINCIPLES OF PHYSICS LABORATORY                                                                                                                                                                                                                                                                                                                                                                                      | 1, 1, 1 |
| Experimental exploration and study of the fundamental concepts of physics.                                                                                                                                                                                                                                                                                                                                                               |         |
| PHYS 251, 252, 253 or equivalent and MATH 181, MATH 281, 282, 283 are prerequisites for all courses numbered PHYS 300 or above; PHYS 395.                                                                                                                                                                                                                                                                                                |         |
| PHYS 311 MODERN PHYSICS                                                                                                                                                                                                                                                                                                                                                                                                                  | 3       |
| Study of the basic principles of relativity, quantum theory, atomic, and nuclear structure. Corequisites: PHYS 314; MATH 315.                                                                                                                                                                                                                                                                                                            |         |
| PHYS 312 PHYSICAL ELECTRONICS                                                                                                                                                                                                                                                                                                                                                                                                            | 3       |
| Study of the physical principles of solid state electronics devices. Prerequisite: PHYS 311; Recommended prerequisite: PHYS 313; Corequisite: PHYS 315.                                                                                                                                                                                                                                                                                  |         |
| PHYS 313 THERMODYNAMICS                                                                                                                                                                                                                                                                                                                                                                                                                  | 4       |
| Introduction to the physical theories of equilibrium thermostatics and irreversible thermodynamics based on elementary statistical mechanics. Prerequisites: PHYS 311; MATH 315.                                                                                                                                                                                                                                                         |         |
| PHYS 314 MODERN PHYSICS LABORATORY                                                                                                                                                                                                                                                                                                                                                                                                       | 1       |
| Experimental study of the characteristics of alpha, beta, and gamma radiation, interaction of radiation with matter, neutron activation. Corequisite: PHYS 311.                                                                                                                                                                                                                                                                          |         |
| PHYS 315 PHYSICAL ELECTRONICS LABORATORY                                                                                                                                                                                                                                                                                                                                                                                                 | 1       |
| Experiments in crystal and semiconductor physics, properties of ionized gases, measurement of fundamental physical constants. Corequisite: PHYS 312.                                                                                                                                                                                                                                                                                     |         |
| PHYS 316 OPTICS LABORATORY                                                                                                                                                                                                                                                                                                                                                                                                               | 1       |
| Experimental study of geometrical and physical optics.                                                                                                                                                                                                                                                                                                                                                                                   |         |
| PHYS 317, 318, 319 PHYSICS SEMINAR I                                                                                                                                                                                                                                                                                                                                                                                                     | 1, 1, 1 |
| Discussion of contemporary and classical topics, with emphasis placed on underlying principles and the interrelation of physical concepts. A term project is required.                                                                                                                                                                                                                                                                   |         |
| PHYS 321, 322 OPTICS                                                                                                                                                                                                                                                                                                                                                                                                                     | 3, 3    |
| Study of classical theory of radiation and optics based on Maxwell's equations; includes reflection, refraction, dispersion, diffraction, interference, coherence, polarization, scattering, polychromatic waves. Corequisite: PHYS 316.                                                                                                                                                                                                 |         |
| PHYS 395 METHODS OF TEACHING PHYSICAL SCIENCE                                                                                                                                                                                                                                                                                                                                                                                            | 3       |
| Materials, techniques, and methods of teaching the physical sciences on the secondary level. Requires observation, demonstration, and class presentations. Special attention is given to newer methods of teaching science to the secondary student. Will not apply on a major or minor in physics.                                                                                                                                      |         |
| PHYS 401, 402 ELECTRICITY AND MAGNETISM                                                                                                                                                                                                                                                                                                                                                                                                  | 4, 4    |
| Study of electric and magnetic field theory, polarization, magnetization, solutions to the equations of Laplace and Poisson, Maxwell's equations, applications to plane waves, and dipole radiation.                                                                                                                                                                                                                                     |         |

## PHYSICS

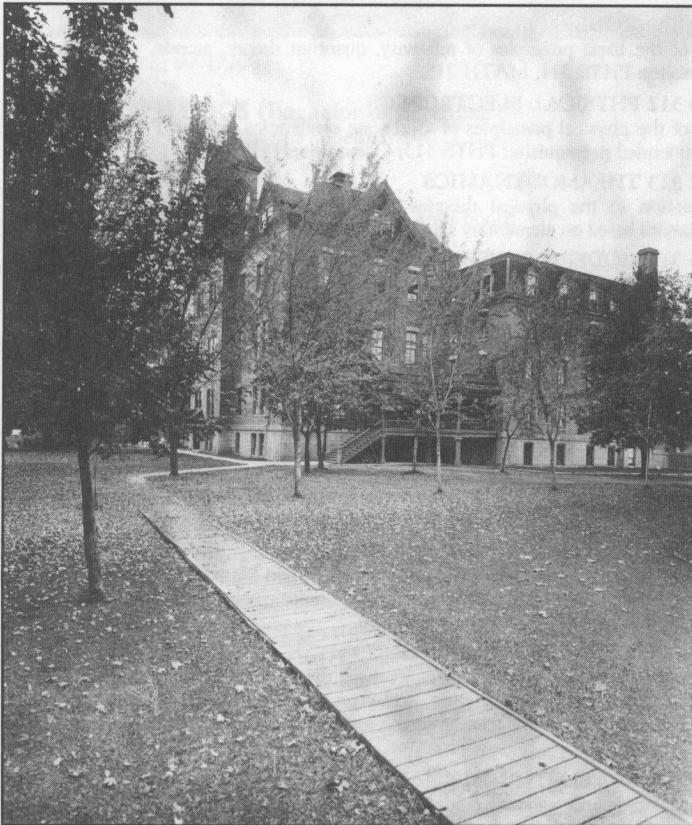
**PHYS 414, 415, 416 EXPERIMENTAL PHYSICS** 1, 1, 1  
Experimental investigations in classical and modern physics. Will not be offered 1991-92.

**PHYS 417, 418, 419 PHYSICS SEMINAR II** 1, 1, 1  
Discussion of contemporary and classical topics in physics, with emphasis placed on underlying principles and the interrelation of physical concepts. A term project is required.

**PHYS 421 CLASSICAL MECHANICS** 4  
Study of kinematics and dynamics of particles and rigid bodies, harmonic and orbital motion, using the methods of Newton, Lagrange, and Hamilton.

**PHYS 422, 423 QUANTUM MECHANICS** 4, 4  
Study of the experimental and theoretical foundations of modern atomic and sub-atomic physics. Topics include special relativity, wave mechanics, matrix mechanics, perturbation theory, and particle physics. Prerequisite: PHYS 421. Will not be offered 1991-92.

**PHYS 494 COOPERATIVE EDUCATION** 0  
Individual contract arrangement between a cooperating employer and a student which provides the student with practical experience in an off-campus setting. Graded S or NC. Prerequisites: CDEV 210 or equivalent, completion of at least ten credit hours of upper division physics courses, and departmental approval.



*Boardwalk between Sanitarium and Administration Building*

## **PREPROFESSIONAL PROGRAMS**

The College offers courses required for admission to professional or technical schools. Students should learn the admission requirements of the school of their choice. Most preprofessional curricula require two units of high school mathematics (algebra and geometry). All programs should be planned in consultation with and approved by the assigned academic adviser.

### **ARCHITECTURE**

Fred Bennett, Tom Emmerson, Academic Advisers.

Professional schools of architecture usually require a minimum of two or three years of preprofessional study. Final acceptance for professional studies is determined competitively, and the level of expected preprofessional achievement varies considerably among schools.

The following typical two-year program will satisfy the basic entrance requirements of many professional schools of architecture. However, admission requirements vary between programs and students should plan their preprofessional studies to fit the requirements of the particular institutions to which they intend to apply.

Students interested in completing the preprofessional architecture requirements at Walla Walla College and in transferring to Andrews University for the architecture program should consult with the preprofessional architecture advisers for the recommended course of study.

|                    |                                      |   |
|--------------------|--------------------------------------|---|
| ART 161, 162, 163  | Design                               | 9 |
| ART 184, 185       | Introduction to Drawing              | 4 |
| ART 251            | Introduction to Art                  | 4 |
| ART 324, 325       | History of Art                       | 6 |
| ENGL 121, 122, 123 | College Writing                      | 8 |
| ENGR 121, 122, 123 | Introduction to Engineering          | 6 |
| HIST 120, 121, 122 | History of Western Civilization      | 8 |
| MATH 121, 122      | Fundamentals of Mathematics I, II    | 8 |
| MATH 181           | Analytic Geometry and Calculus I     | 4 |
| MATH 281           | *Analytic Geometry and Calculus II   | 4 |
| PEAC               | Electives                            | 3 |
| PHYS 211, 212, 213 | General Physics                      | 9 |
| PHYS 214, 215, 216 | General Physics Laboratory           | 3 |
| PSYC 130           | *General Psychology                  | 4 |
| RELB, RELH, RELT   | Electives                            | 8 |
| SPCH 101           | Fundamentals of Speech Communication | 4 |

\*Suggested courses: other courses in this same field may also be appropriate.

**CHIROPRACTIC**

Steven Lee, Academic Adviser.

Two years of college work are generally required, including one year of biology and at least one year of chemistry. The student should obtain a bulletin from each chiropractic college to which he wishes to apply for information on entrance requirements and on state requirements, which vary. Of the dozen approved schools in the United States, Western States Chiropractic College in Portland, Oregon, is the only one in the Northwest. The admission requirements of Western State Chiropractic College presently include one-year courses in general chemistry, organic chemistry, general biology, and general physics.

**DENTISTRY**

Ralph Perrin, Academic Adviser.

The minimum requirement for admission to dentistry is 96 quarter hours. However, most dental schools expect candidates to have completed a bachelor's degree. The following courses are basic requirements:

|                    |                                                      |                     |
|--------------------|------------------------------------------------------|---------------------|
| BIOL 101, 102, 103 | General Biology (or Zoology)                         | 12                  |
| CHEM 141, 142, 143 | General Chemistry                                    | 9                   |
| CHEM 144, 145, 146 | General Chemistry Laboratory                         | 3                   |
| CHEM 321, 322, 323 | Organic Chemistry                                    | 9                   |
| CHEM 324, 325, 326 | Microscale Organic Laboratory                        | 3                   |
| ENGL 121, 122, 123 | College Writing                                      | 8                   |
| MATH 121, 122      | Fundamentals of Mathematics I, II<br>(or equivalent) | 8                   |
| MGMT 371           | Management and Organizational Behavior               | 4                   |
| PHYS 211, 212, 213 | General Physics                                      | 9                   |
| PHYS 214, 215, 216 | General Physics Laboratory                           | 3                   |
|                    | Religion                                             | one course per year |

Loma Linda University also recommends the following:

|          |                        |   |
|----------|------------------------|---|
| HLSC 220 | Human Nutrition        | 4 |
|          | Two psychology courses |   |

The Pre-Dental student should choose a major and plan for a degree even though she/he may be accepted to dentistry prior to completion of degree requirements.

**DENTAL HYGIENE**

Ralph Perrin, Academic Adviser.

**Loma Linda University**

Students planning for careers in dental hygiene must complete 48 or 96 quarter hours with a cumulative grade-point average of 3.00 or more before seeking admission to the various dental hygiene programs. Most community college programs lead to the terminal A.S. degree, but still require one year of basics, including all of the sciences, before beginning the two year program. The B.S. programs have 96 hours of prerequisites. Courses required for admission to Loma Linda University are as follows.

**COMMUNICATION SKILLS (12 hours)**

|                           |                                                                                 |    |
|---------------------------|---------------------------------------------------------------------------------|----|
| ENGL 121, 122, 123        | College Writing                                                                 | 8  |
| SPCH 101, 122             | Fundamentals of Speech Communication                                            | 4  |
| <b>NATURAL SCIENCE</b>    | (24 hours)                                                                      |    |
| BIOL 201, 202             | Anatomy and Physiology                                                          | 8  |
| BIOL 222                  | Microbiology                                                                    | 5  |
| CHEM 101, 102, 103        | Introductory Chemistry                                                          | 11 |
| <b>HUMANITIES</b>         | (20 hours)                                                                      |    |
| ART 251                   | Introduction to Art                                                             | 4  |
| or                        |                                                                                 |    |
| MUHL 124                  | Introduction to Music                                                           |    |
| ENGL 204-215              | General Studies Literature                                                      | 4  |
| HIST 120, 121, 122        | History of Western Civilization (any)                                           | 4  |
|                           | Electives                                                                       | 8  |
|                           | (must be chosen from general studies<br>humanities or foreign language courses) |    |
| <b>SOCIAL SCIENCES</b>    | (12 hours)                                                                      |    |
| PSYC 130                  | General Psychology                                                              | 4  |
| SOCI 204                  | General Sociology                                                               | 4  |
|                           | U.S. History, Economics or Anthropology                                         | 4  |
| <b>PHYSICAL EDUCATION</b> |                                                                                 | 3  |
| <b>RELIGION</b>           |                                                                                 | 8  |
| <b>ELECTIVES</b>          |                                                                                 | 17 |
| CPTR 105                  | Personal Computing<br>(highly recommended)                                      |    |

The Dental Hygiene Candidate Aptitude Test (DHCAT) must be taken no later than December of the year of application to Loma Linda University. The B. S. degree is awarded by Loma Linda University.

**LAW**

Terry Gottschall, Academic Adviser.

There is no specific curriculum for prelaw students. Courses designed to develop skills in oral and written communication and the ability to reason and think analytically are strongly recommended.

Most law schools require a bachelor's degree and a satisfactory grade-point average and score on the Law School Admission Test (LSAT) for admission. Law schools vary in the levels of achievement required for admission. Students planning to study law are encouraged to consult with the prelaw adviser.

**MEDICINE**

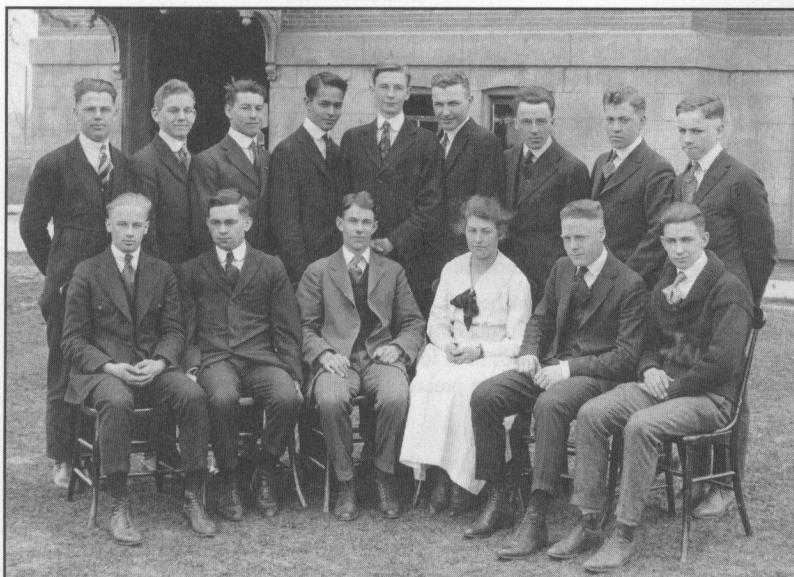
Ralph Perrin, Academic Adviser.

The basic entrance requirements are not exactly the same for all medical schools. Most medical schools require completion of a bachelor's degree with a grade-point average of 3.50 or above, computed separately for science and nonscience courses. The following courses are normally required by Loma Linda University:

## PREPROFESSIONAL PROGRAMS

|                       |                                    |     |
|-----------------------|------------------------------------|-----|
| BIOL 101, 102, 103    | General Biology                    | 12  |
| CHEM 141, 142, 143    | General Chemistry                  | 9   |
| CHEM 144, 145, 146    | General Chemistry Laboratory       | 3   |
| CHEM 321, 322, 323    | Organic Chemistry                  | 9   |
| CHEM 324, 325, 326    | Microscale Organic Laboratory      | 3   |
| MATH 121, 122         | Fundamentals of Mathematics I, II  |     |
| or                    |                                    |     |
| MATH 117              | Precalculus                        | 4-8 |
| or                    |                                    |     |
| MATH 181              | Analytical Geometry and Calculus I |     |
| PHYS 211, 212, 213    | General Physics                    |     |
| PHYS 214, 215, 216    | General Physics Laboratory         |     |
| or                    |                                    |     |
| PHYS 251, 252, 253    | Principles of Physics              | 12  |
| PHYS 254, 255, 256    | Principles of Physics Laboratory   |     |
|                       | Religion                           | 16  |
| Also recommended are: |                                    |     |
| BIOL 394              | Developmental Biology              | 4   |
| BIOL 465              | Bacteriology                       | 5   |
| BIOL 449              | Histology                          | 4   |
| BIOL 466              | Immunology                         | 4   |
| CHEM 431              | Biochemistry                       | 3   |
| CHEM 433              | Biochemical Laboratory Methods     | 1   |
| MATH 181              | Analytical Geometry and Calculus I | 4   |

If applying to a medical school other than Loma Linda University, the student should refer to the bulletin of that institution for specific entrance requirements.



Premedical students 1918

**MEDICAL TECHNOLOGY**

See Interdisciplinary section of this Bulletin.

**NURSING**

See Nursing section of this Bulletin.

**OCCUPATIONAL THERAPY**

Curtis Kuhlman, Academic Adviser.

Students preparing for the Bachelor of Science degree in occupational therapy should plan to complete 96 quarter hours before entering the professional training. The curriculum requirements of Loma Linda University include:

|                    |                                                                                                                                                     |    |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----|
| BIOL 201, 202      | Anatomy and Physiology                                                                                                                              | 8  |
| ENGL 121, 122, 123 | College Writing                                                                                                                                     | 8  |
| MATH 106           | Applied Statistics                                                                                                                                  | 4  |
| PSYC 130           | General Psychology                                                                                                                                  | 4  |
| SOCI 224           | Human Development and the Family                                                                                                                    | 4  |
| SPCH 101           | Fundamentals of Speech Communication                                                                                                                | 4  |
|                    | Anthropology, Sociology                                                                                                                             | 12 |
|                    | Select an additional behavioral science course.                                                                                                     |    |
|                    | Chemistry, Physics or Physical Science                                                                                                              | 12 |
|                    | Select at least one science sequence. Science must include laboratory.                                                                              |    |
|                    | Ceramics, TECH 233 or ART 284                                                                                                                       |    |
|                    | Woodworking, TECH 231, 232, 233                                                                                                                     |    |
|                    | General Crafts                                                                                                                                      |    |
|                    | Select one additional class from Technology listings.                                                                                               |    |
|                    | Humanities                                                                                                                                          | 16 |
|                    | Select from: fine arts, foreign language, literature, philosophy. (History of Civilization may be counted either in humanities or social sciences.) |    |
|                    | Math                                                                                                                                                |    |
|                    | Two years of high school mathematics or equivalent                                                                                                  |    |
|                    | Religion                                                                                                                                            | 12 |
|                    | Electives                                                                                                                                           | 23 |
|                    | To meet the minimum of 96 quarter hours. Courses in applied art and behavior science are recommended.                                               |    |

In addition to the above Loma Linda University requires: A documented minimum of 80 hours of volunteer or employee work experience in an occupational therapy department before acceptance. Occupational Therapist Assistant program also available at Loma Linda University.

**OPTOMETRY**

Gordon Johnson, Academic Adviser.

While two years of college work is the minimum requirement for admission to most optometry schools, the majority of students being admitted have finished at least four years of college or received a bachelor's degree. Students interested in optometry should choose a major even though they may later gain admission to professional school before finishing it. At some optometry schools a student admitted before graduation must then finish a bachelor's degree while pursuing professional studies. This is not advisable since the requirements of the school awarding the degree must then be met.

## PREPROFESSIONAL PROGRAMS

The preprofessional curriculum should include as a minimum the following courses:

|                    |                                                                                                        |   |
|--------------------|--------------------------------------------------------------------------------------------------------|---|
| CHEM 141, 142, 143 | General Chemistry                                                                                      | 9 |
| CHEM 144, 145, 146 | General Chemistry Laboratory                                                                           | 3 |
| ENGL 121, 122, 123 | College Writing                                                                                        | 8 |
| MATH 121, 122      | *Fundamentals of Mathematics I, II<br>(may be satisfied by a good secondary<br>mathematics background) | 8 |
| MATH 181           | Analytic Geometry and Calculus I                                                                       | 4 |
| PHYS 211, 212, 213 | General Physics                                                                                        | 9 |
| PHYS 214, 215, 216 | General Physics Laboratory                                                                             | 3 |
| PSYC 130           | General Psychology                                                                                     | 4 |

\*Fundamentals of Mathematics should be taken the first year since it is a corequisite for General Chemistry and a prerequisite for General Physics.

Since the requirements for other preoptometry courses differ widely among the optometry schools, students should obtain catalogs from each school of interest in order that all prerequisites may be fulfilled. Other commonly required courses include:

|                    |                               |    |
|--------------------|-------------------------------|----|
| BIOL 101, 102, 103 | General Biology               | 12 |
| BIOL 201, 202      | Anatomy and Physiology        | 8  |
| BIOL 222           | Microbiology                  | 5  |
| CHEM 321, 322, 323 | Organic Chemistry             | 9  |
| CHEM 324, 325, 326 | Microscale Organic Laboratory | 3  |

A course in statistics

An additional psychology course

Students may also wish to request the booklet Admissions to Schools and Colleges of Optometry, available from the American Optometric Association, 243 Lindburg Blvd., St. Louis, MO 63141.

## OSTEOPATHY

Ralph Perrin, Academic Adviser.

Schools of osteopathic medicine usually require a degree from an accredited college. The course requirements are essentially the same as for medical schools. (See the medical requirements listed previously in this section of the bulletin.)

## PHARMACY

Steven Lee, Academic Adviser.

At least two years of general college work are required. Students should consult with the college of pharmacy of their choice about course requirements. The following courses should be included:

|                    |                              |    |
|--------------------|------------------------------|----|
| BIOL 101, 102, 103 | General Biology (or Zoology) | 12 |
| BIOL 222           | Microbiology                 | 5  |
| CHEM 141, 142, 143 | General Chemistry            | 9  |
| CHEM 144, 145, 146 | General Chemistry Laboratory | 3  |
| CHEM 321, 322, 323 | Organic Chemistry            | 9  |

|                    |                                        |   |
|--------------------|----------------------------------------|---|
| CHEM 324, 325, 326 | Microscale Organic Laboratory          | 3 |
| ENGL 121, 122, 123 | College Writing                        | 8 |
| MATH 181, 281      | Analytical Geometry and Calculus I, II | 8 |
| PHYS 211, 212, 213 | General Physics                        | 9 |
| PHYS 214, 215, 216 | General Physics Laboratory             | 3 |

All pharmaceutical colleges require three years in residency beyond the two years of prepharmacy; some require four years.

## PHYSICAL THERAPY

Scott Ligman, Academic Adviser.

Almost all programs now offer the degree in physical therapy at the master's level. Most programs require three years or a bachelor's degree prior to acceptance. Both Loma Linda University and Andrews University offer the master's degree with admission after two years of college. Students should consult the bulletin of the school of interest for specific entrance requirements. Courses at Walla Walla College that meet the entry requirements for Loma Linda University and Andrews University are:

|                                                                    |                                                                  |               |
|--------------------------------------------------------------------|------------------------------------------------------------------|---------------|
| BIOL 101, 102, 103<br>or (preferred for AU: either option for LLU) | General Biology                                                  | 8-12          |
| BIOL 201, 202                                                      | Anatomy and Physiology                                           |               |
| BIOL 222                                                           | Microbiology                                                     | 5             |
| CHEM 141, 142, 143                                                 | General Chemistry                                                | 9             |
| CHEM 144, 145, 146                                                 | General Chemistry Laboratory                                     | 3             |
| CPTR 105                                                           | Personal Computing                                               | 3             |
| ENGL 121, 122, 123                                                 | College Writing                                                  | 8             |
| MATH 117<br>or                                                     | Precalculus                                                      | 4-5           |
| MATH 121                                                           | Fundamentals of Mathematics                                      |               |
| MATH 106                                                           | Applied Statistics                                               | 4             |
| PHYS 201, 202                                                      | Invitation to Physics                                            | 6             |
| PHYS 204, 205                                                      | Invitation to Physics Laboratory                                 | 2             |
| PSYC 130                                                           | General Psychology                                               | 4             |
| SOCI 204                                                           | General Sociology (prerequisite to SOCI 324)                     | 4             |
| SOCI 324                                                           | Human Development and the Family                                 | 4             |
| SPCH 101                                                           | Fundamentals of Speech                                           | 4             |
|                                                                    | Humanities                                                       | AU 8; LLU 16* |
|                                                                    | Physical Education                                               | AU 3; LLU 2   |
|                                                                    | Religion                                                         | AU 9; LLU 12  |
|                                                                    | RELT 246 highly recommended for LLU                              |               |
|                                                                    | RELT 202 or 314 required for AU                                  |               |
|                                                                    | Electives                                                        |               |
|                                                                    | To meet the minimum of 96 quarter hours<br>for AU or 98 for LLU. |               |

Both programs require for acceptance: a documented minimum of 80 hours of volunteer/employee work experience in a physical therapy department, with at least 20 hours in a general, acute-care hospital. LLU requires the completion of the Allied Health Professions Admission Test (AHPAT) during the fall quarter prior to application. AU now requires scores from the Nelson-Denny reading test. See adviser.

**PHYSICAL THERAPY ASSISTANT**

Scott Ligman, Academic Adviser.

The increased demand for physical therapists has created a demand for physical therapy assistants. These programs are usually a two-year program leading to an Associate Degree. Loma Linda University offers such a program with one year of prerequisites and one year of training. Courses at Walla Walla College to meet these prerequisites are:

|                    |                                                                 |   |
|--------------------|-----------------------------------------------------------------|---|
| BIOL 201, 202      | Anatomy and Physiology                                          | 8 |
| ENGL 121, 122, 123 | College Writing                                                 | 8 |
| PHYS 201           | Invitation to Physics                                           | 3 |
| PHYS 204           | Invitation to Physics Laboratory                                | 1 |
| PSYC 130           | General Psychology                                              | 4 |
| PSYC 215           | Psychology of Childhood and Adolescence                         | 4 |
| SOCI 204           | General Sociology                                               | 4 |
| SPCH 101           | Fundamentals of Speech                                          | 4 |
|                    | Electives                                                       | 2 |
|                    | Select from fine arts, foreign language, literature, philosophy |   |
|                    | Religion                                                        | 4 |
|                    | Mathematics: Two years of high school math                      |   |
|                    | Physical Education or Health                                    | 2 |
|                    | Electives                                                       | 2 |

A documented minimum of 80 hours of volunteer or employee work experience in a physical therapy department, with at least 20 hours in a general, acute/care hospital, is required. Either ACT or SAT scores are required with the application to LLU.

**PUBLIC HEALTH**

Ralph Perrin, Academic Adviser.

Since the field of public health includes such a wide variety of career disciplines, the training opportunities offered by Schools of Public Health present a striking array of distinctly different program tracks.

Students preparing to enter graduate professional programs in public health should realize that the various career options require different types of preparation, and that they have a significant advantage if they anticipate prerequisite differences early. While no particular group of prerequisites can be considered constant for all program tracks, students will find that certain basic public health elements are fundamental to all. Therefore, the applicant who has included in his undergraduate preparation courses in general statistics, epidemiology, public health administration, environmental health, and behavioral science may benefit from advanced standing and/or course waivers for these requirements once accepted into the graduate program.

**RADIOLOGICAL TECHNOLOGY**

Curtis Kuhlman, Academic Adviser.

The minimum requirement for admission to the study of radiological technology is 48 quarter hours. The following courses are to be included for the Associate of Science degree from Loma Linda University:

|      |               |                                         |   |
|------|---------------|-----------------------------------------|---|
| BIOL | 201, 202      | Anatomy and Physiology                  | 8 |
| ENGL | 121, 122, 123 | College Writing                         | 8 |
| PHYS | 201, 202      | Invitation to Physics                   |   |
| and  |               |                                         |   |
| PHYS | 204, 205      | Invitation to Physics Laboratory        | 8 |
| or   |               |                                         |   |
| PHYS | 211, 212      | General Physics                         |   |
| and  |               |                                         |   |
| PHYS | 214, 215      | General Physics Laboratory              |   |
| PSYC | 130           | General Psychology                      |   |
| or   |               |                                         |   |
| SOCI | 204           | General Sociology                       | 4 |
|      |               | Math (two years of high school math)    |   |
|      |               | Religion                                |   |
|      |               | Electives                               |   |
|      |               | To meet the minimum of 48 quarter hours |   |

In addition to the basic courses listed above, the following elective courses are highly recommended.

- An introductory computer course
- An introductory photography course
- Speech
- Typing

For those students planning for further academic work, a B.S. degree requires 12 units of humanities and 12 units of social sciences. Other clinical specialties require General Chemistry, and most highly recommend General Physics.

## RESPIRATORY THERAPY

Curtis Kuhlman, Academic Adviser.

The minimum requirement for admission to the study of respiratory therapy is 48 quarter hours. The following courses are to be included for the Associate of Science degree from Loma Linda University:

|      |               |                                  |      |
|------|---------------|----------------------------------|------|
| BIOL | 101, 102, 103 | General Biology                  | 8-12 |
| or   |               |                                  |      |
| BIOL | 201, 202      | Anatomy and Physiology           |      |
| BIOL | 222           | Microbiology                     | 5    |
| CHEM | 101, 102      | Introductory Chemistry           | 8    |
| PHYS | 201, 202      | Invitation to Physics            |      |
| and  |               |                                  |      |
| PHYS | 204, 205      | Invitation to Physics Laboratory | 8    |
| or   |               |                                  |      |
| PHYS | 211, 212      | General Physics                  |      |
| and  |               |                                  |      |
| PHYS | 214, 215      | General Physics Laboratory       |      |
| PSYC | 130           | General Psychology               |      |
| or   |               |                                  |      |
| SOCI | 204           | General Sociology                | 4    |
| ENGL | 121, 122, 123 | College Writing                  | 8    |

## PREPROFESSIONAL PROGRAMS

Math (Two years of high school math)  
Religion  
Electives  
To meet the minimum of 48 quarter hours.  
(Speech is highly recommended.)

4

The ACT or SAT examination is required for students entering Loma Linda University.

## SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY

Donnie Rigby, Academic Adviser.

The requirements below apply to the Loma Linda University program in speech-language pathology and audiology. Because the basic requirements for entrance into other speech-language pathology and audiology programs may be different, the student should confer with the school of his choice.

Where possible, the student should plan to complete speech-language pathology-related courses on this campus before transferring to Loma Linda University or another school. They include:

|          |                                                    |   |
|----------|----------------------------------------------------|---|
| SPCH 107 | *Voice and Articulation                            | 4 |
| SPPA 210 | †Survey of Speech-Language Pathology and Audiology | 3 |
| SPPA 250 | *Sign Language for the Deaf                        | 3 |

† Required

\*These courses may help fulfill elective speech pathology hours.

To be eligible for admission, the applicant must have completed a minimum of 96 quarter hours. The minimum subject requirements are:

|                                                                                                                                                                                                                                                                                            |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| College Writing                                                                                                                                                                                                                                                                            | 8  |
| Humanities                                                                                                                                                                                                                                                                                 | 16 |
| Select from at least two fields:<br>Fine arts (4 credits of applied music or art<br>may be included), foreign language, literature,<br>philosophy. English as a foreign language may<br>not be included. History of civilization may be<br>counted either in humanities or social studies. |    |
| Speech                                                                                                                                                                                                                                                                                     | 4  |
| Natural Science                                                                                                                                                                                                                                                                            |    |
| Anatomy and Physiology recommended                                                                                                                                                                                                                                                         |    |
| Mathematics (Math 106 strongly recommended)                                                                                                                                                                                                                                                |    |
| Two years of high school mathematics or equivalent<br>(excluding arithmetic and business mathematics),<br>with grades of C- or better.                                                                                                                                                     |    |
| Social Sciences                                                                                                                                                                                                                                                                            | 12 |
| General Psychology                                                                                                                                                                                                                                                                         | 4  |
| Human Growth and Development                                                                                                                                                                                                                                                               |    |
| or                                                                                                                                                                                                                                                                                         |    |
| Developmental Psychology                                                                                                                                                                                                                                                                   |    |
| Select one other behavioral science course.                                                                                                                                                                                                                                                |    |
| Religion                                                                                                                                                                                                                                                                                   | 8  |
| Any student who has attended a Seventh-day<br>Adventist college must have an average of two<br>units of credit for each quarter attended to a total of 12.                                                                                                                                 | 12 |

**Electives**

Sufficient to meet the minimum of 96 hours.

(Computer science/word processing course recommended.)

**VETERINARY SCIENCE**

Don Rigby, Academic Adviser.

The requirements below apply to the Washington-Oregon-Idaho Regional Program in veterinary medical education. Since the basic requirements for entrance into other veterinary schools may be different, students should confer with the schools of their choice.

**Requirements:**

|                    |                                      |       |
|--------------------|--------------------------------------|-------|
| BIOL 101, 102, 103 | General Biology                      | 12    |
| BIOL 393           | Genetics                             | 4     |
| CHEM 141, 142, 143 | General Chemistry                    | 9     |
| CHEM 144, 145, 146 | General Chemistry Laboratory         | 3     |
| CHEM 321, 322, 323 | Organic Chemistry                    | 9     |
| CHEM 324, 325, 326 | Microscale Organic Laboratory        | 3     |
| CHEM 431           | Biochemistry                         |       |
| CHEM 433           | Biochemical Laboratory Methods       |       |
| or                 |                                      | 4-8   |
| CHEM 431, 432      | Biochemistry                         |       |
| CHEM 433, 434      | Biochemical Laboratory Methods       |       |
| ENGL 121, 122, 123 | College Writing                      | 8     |
| MATH 121, 122      | Fundamentals of Mathematics I, II    | 8     |
| PHYS 211, 212, 213 | General Physics                      | 9     |
| PHYS 214, 215, 216 | General Physics Laboratory           | 3     |
| SPCH 101           | Fundamentals of Speech Communication | 4     |
|                    | Humanities and Social Studies        | 15-20 |

**Recommended Courses:**

See preveterinary adviser for additional courses recommended by Washington State University Curriculum Committee.

Total hours required (additional electives) 90

**Nonacademic Requirements:**

Veterinary Aptitude Test or Graduate Record Examination (General Test)

**Veterinary Medical Exposure and Animal Experience**

Applicants must have some hours of veterinary medical exposure and experience with animals or biomedical research laboratories by November 1, of the year of application.

## RELIGION

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Douglas Clark, Dean; Ernest Bursey, Glen Greenwalt, Bruce Johanson, Ronald Jolliffe, Pedrito Maynard-Reid, Alden Thompson, Larry Verkerka.

The principal purposes of the School of Theology are to provide undergraduate education for students seeking to enter the ministry and to offer courses in religion as desired by students in various other curricula of the college.

Candidates for the ministry are selected on the basis of scholarship, spiritual qualities, cultural refinement, social sympathies, and skills. Ministerial students are admitted to candidacy for a Bachelor of Arts degree with a major in theology upon the approval of the theology faculty at the beginning of the junior year. Those approved will then work to meet seminary entrance requirements by completing a theology major. Students should plan on two additional years of graduate study at the Theological Seminary of Andrews University for ministerial internship.

Those who expect a recommendation to the seminary and/or those who plan to be pastors, evangelists, Bible workers, or Bible teachers should take a theology major. The religion major is available to those who are not planning on the ministry, and for those anticipating additional graduate training in such fields as medicine, dentistry, and law.

All majors must successfully complete a senior comprehensive examination. Theology and Biblical Languages majors must also pass a Greek proficiency examination typically given near the end of each winter quarter. Those planning to attend the seminary should complete the undergraduate subjects required for entrance and maintain a minimum grade-point average of 2.50. Students who plan to teach religion in Seventh-day Adventist academies must aim for teacher certification as outlined in the Education section of this bulletin. Students should consult the dean of the School of Theology about courses required as early as possible in their college career.

The Biblical Languages major is intended for those who wish to gain facility in use of the basic tools for Biblical study, especially those anticipating graduate work in this and related areas.

### MAJOR IN BIBLICAL LANGUAGES (Bachelor of Arts)

A student majoring in biblical languages must complete 45 quarter hours in the major, the required cognates, the general studies programs, and all baccalaureate degree requirements as outlined in this bulletin.

#### Major Requirements:

|                    |                                       |       |
|--------------------|---------------------------------------|-------|
| RLNG 121, 122, 123 | Greek I                               | 9     |
| RLNG 221, 222, 223 | Greek II                              | 6-9*  |
| RLNG 331           | Introduction to Hebrew                | 3     |
| RLNG 332, 333      | Elementary Hebrew                     | 6     |
|                    | Electives (12 must be upper division) | 18-21 |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department.

\*Dependent on Greek proficiency examination score.

**Cognates:**

|          |                                       |   |
|----------|---------------------------------------|---|
| RELB 223 | Exegesis of Romans (Greek)            | 3 |
| RELB 423 | Hebrew Exegesis                       | 3 |
| RELH 205 | Biblical Archaeology                  | 3 |
| RELH 406 | History of the English Bible          | 2 |
| RELH 455 | Early Church History                  | 3 |
| RELT 404 | Approaches to Biblical Interpretation | 2 |

**MAJOR IN RELIGION (Bachelor of Arts)**

A student majoring in religion must complete 50 quarter hours in the major (27 quarter hours must be upper division), the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

**Major Requirements:**

|          |                                                                                                                                                                                                                           |    |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| RELB     | Biblical Studies                                                                                                                                                                                                          | 20 |
|          | At least 6 quarter hours must be in Old Testament studies (RELB 111; 141; 301; 302; 303; 304; 305; 312), and at least 6 hours in New Testament studies (RELB 104, 105, 106; 142; 216; 313; 434, 435, 436; 464, 465, 466). |    |
| RELH 402 | Modern Denominations                                                                                                                                                                                                      |    |
| or       |                                                                                                                                                                                                                           |    |
| RELH 403 | World Religions                                                                                                                                                                                                           | 3  |
| RELT 246 | Christian Ethics                                                                                                                                                                                                          | 3  |
| RELT 330 | Christian Discipleship                                                                                                                                                                                                    | 3  |
| RELT 496 | Seminar in Christian Ethics                                                                                                                                                                                               | 2  |
|          | Electives                                                                                                                                                                                                                 | 18 |
|          | Electives must be chosen in consultation with and approved by the academic adviser assigned by the department.                                                                                                            | 50 |

**Cognate:**

|          |                              |   |
|----------|------------------------------|---|
| ENGL 224 | Research Writing in Religion | 3 |
|----------|------------------------------|---|

**MAJOR IN THEOLOGY (Bachelor of Arts)**

A student majoring in theology must complete 60 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

**Major Requirements:**

|                    |                                                     |   |
|--------------------|-----------------------------------------------------|---|
| RELB 141           | Introduction to Old Testament Exegesis              | 3 |
| RELB 142           | Introduction to New Testament Exegesis              | 3 |
| RELB 223           | Exegesis of Romans (Greek)                          | 3 |
| RELB 423           | Hebrew Exegesis                                     | 3 |
| RELH 455           | Early Church History                                | 3 |
| RELH 457           | History of Adventism                                | 2 |
| RELP 150           | Ministerial Orientation                             | 0 |
| RELP 241, 242, 243 | Personal Ministry                                   | 4 |
| RELP 380           | Pastoral Administration and Evangelism              | 4 |
| RELP 480           | Pastoral Care and Counseling                        | 4 |
| REPL 494           | Cooperative Education                               | 0 |
| RELP 496           | Seminar in Pastoral Problems                        | 2 |
| RELT 143           | Introduction to the Study of Ellen White's Writings | 3 |

## RELIGION

|               |                                      |    |
|---------------|--------------------------------------|----|
| RELT 221      | Christian Spirituality               | 3  |
| RELT 456, 457 | Systematic Theology I & II           | 6  |
| RELT 496      | Seminar in Christian Ethics          | 2  |
|               | Electives (8 must be upper division) | 15 |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department and must include one course from the following: RELB 301, 302, 303, 304, 305, 312; and one course from the following: RELB 313, 434, 435, 436, 464, 465.

### Cognates:

|                    |                                      |    |
|--------------------|--------------------------------------|----|
| ENGL 224           | Research Writing in Religion         | 3  |
| HIST 456           | Medieval and Modern Church History   | 4  |
| RLNG 121, 122, 123 | Greek I                              | 9  |
| RLNG 221, 222, 223 | Greek II                             | 9† |
| RLNG 331           | Introduction to Hebrew               | 3  |
| RLNG 332           | Elementary Hebrew                    | 3  |
| SPCH 101           | Fundamentals of Speech Communication | 4  |
| SPCH 381, 382, 383 | Biblical Preaching                   | 6  |
|                    | One Philosophy Course*               |    |

\*The requirement for one philosophy course will be waived for Honors students who complete the entire sequence of Western Thought I & II.

†Students who score above 90 on the Greek Proficiency Exam may substitute 3 hours of upper division Greek for the final quarter of Greek II

## MINOR IN BIBLICAL LANGUAGES

A student minoring in Biblical languages must complete 30 quarter hours:

|                                      |    |
|--------------------------------------|----|
| Electives (9 must be upper division) | 30 |
|--------------------------------------|----|

Approval of Biblical languages adviser required. Recommended electives outside the minor are RELB 223; RELH 205, 406, 455; RELT 404.

## MINOR IN RELIGION

A student minoring in religion must complete 30 quarter hours:

|                                      |    |
|--------------------------------------|----|
| Electives (9 must be upper division) | 30 |
|--------------------------------------|----|

Approval of religion adviser required.

## BIBLICAL STUDIES (RELB)

### RELB 104 THE MINISTRY OF JESUS

Survey of Christ's life in its historical setting as a basis for determining Christian action.

### RELB 105 THE SERMON ON THE MOUNT

Study of the Sermon on the Mount as it relates to the needs of the Christian.

### RELB 106 THE PARABLES OF JESUS

Exegetical study of Jesus' parables; considers literary structure, historical context, and relevance for today.

### RELB 111 MESSAGES OF THE OLD TESTAMENT

Survey of basic themes of the Old Testament.

### RELB 141 INTRODUCTION TO OLD TESTAMENT EXEGESIS

Introduction to the methods used in interpreting the Old Testament. Open only to departmental majors. Must be taken in sequence with RELB 142 and RELT 143.

|                                                                                                                                                                                                                                                                   |         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| RELB 142 INTRODUCTION TO NEW TESTAMENT EXEGESIS                                                                                                                                                                                                                   | 3       |
| Introduction to the methods used in interpreting the New Testament. Open only to departmental majors. Must be taken in sequence with RELB 141 and RELT 143.                                                                                                       |         |
| RELB 216 MESSAGES OF PAUL                                                                                                                                                                                                                                         | 4       |
| Survey of the basic themes of Paul's letters.                                                                                                                                                                                                                     |         |
| RELB 223 EXEGESIS OF ROMANS (GREEK)                                                                                                                                                                                                                               | 3       |
| Exegetical study of the letter of Paul to the Romans based on the Greek text. Prerequisites: RLNG 221, 222, 223 and/or the successful completion of the Greek proficiency examination.                                                                            |         |
| RELB 281, 282, 283 THE NEW TESTAMENT AND ITS ENVIRONMENT (HONORS)                                                                                                                                                                                                 | 2, 2, 2 |
| See the General Studies Honors section of this Bulletin.                                                                                                                                                                                                          |         |
| RELB 301 OLD TESTAMENT HISTORY                                                                                                                                                                                                                                    | 3       |
| Study of the historical framework in which the religion of Israel developed; considers dominant events and trends in God's saving relationship to His covenant people.                                                                                            |         |
| RELB 302 PENTATEUCH                                                                                                                                                                                                                                               | 3       |
| Exegetical examination of significant passages in the first section of the Hebrew Canon; considers the historical setting, authorship, time, circumstance of writing, and other literary and theological questions. Will not be offered 1991-92.                  |         |
| RELB 303 WRITINGS                                                                                                                                                                                                                                                 | 3       |
| Introduction to the third section of the Hebrew Canon; considers authorship, the time and circumstance of writing, and other literary and theological questions. Will not be offered 1991-92.                                                                     |         |
| RELB 304 INTERPRETING THE PROPHETS                                                                                                                                                                                                                                | 4       |
| A study of the ministry and messages of the early prophets of Israel.                                                                                                                                                                                             |         |
| RELB 305 HEBREW PROPHETS AND CONTEMPORARY ISSUES                                                                                                                                                                                                                  | 4       |
| Examination of the ministry and messages of the exilic and post-exilic prophets, including a consideration of their relevance for today. Will not be offered 1991-92.                                                                                             |         |
| RELB 312 DANIEL                                                                                                                                                                                                                                                   | 3       |
| Advanced study of the historical setting and significance of the book of Daniel; studies the prophetic features of the book in the light of both secular and church history to provide the student with a clearer insight into contemporary religious conditions. |         |
| RELB 313 REVELATION                                                                                                                                                                                                                                               | 3       |
| An exegetical study of the book of Revelation within its historical context, with special attention to its significance for Christian Eschatology.                                                                                                                |         |
| RELB 333 BIBLICAL PERSPECTIVES ON HEALING                                                                                                                                                                                                                         | 4       |
| A survey of the various ways Biblical writers describe restoration to wholeness of life. The course focuses on selected texts from Old and New Testaments with particular attention to Jesus' acts of healing. Offered on the Portland campus.                    |         |
| RELB 423 HEBREW EXEGESIS                                                                                                                                                                                                                                          | 3       |
| Exegetical study of selected Old Testament passages based on Hebrew text. Prerequisites: RLNG 331, 332.                                                                                                                                                           |         |
| RELB 434 GOSPELS                                                                                                                                                                                                                                                  | 3 or 4  |
| An exegetical reading of the gospel of Mark that attends to literary devices, dominant themes and relevance. (Portland Campus—4 quarter hours; College Place Campus—3 quarter hours.)                                                                             |         |
| RELB 435 GOSPELS                                                                                                                                                                                                                                                  | 3, or 4 |
| Exegetical examination of the gospels of Matthew and Luke including Synoptic comparisons with attention to dominant themes of each gospel. (Portland Campus—4 quarter hours; College Place Campus—3 quarter hours.)                                               |         |

## RELIGION

|                                                                                                                                                                                                                                                                                  |         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>RELB 436 GOSPELS</b>                                                                                                                                                                                                                                                          | 3, or 4 |
| An exegetical reading of the gospel of John that attends to literary devices, dominant themes and relevance. (Portland Campus—4 quarter hours; College Place Campus—3 quarter hours.)                                                                                            |         |
| <b>RELB 454 LITERATURE OF THE BIBLE (or ENGL 454)</b>                                                                                                                                                                                                                            | 4       |
| General Studies literature or ENGL 234. See the English section of this Bulletin.                                                                                                                                                                                                |         |
| <b>RELB 464 NEW TESTAMENT EPISTLES</b>                                                                                                                                                                                                                                           | 3       |
| Exegetical study of 1 & 2 Thessalonians, and 1 & 2 Corinthians, within their historical contexts. Students who have taken RELB 216 should not register for this course without special permission.                                                                               |         |
| <b>RELB 465 NEW TESTAMENT EPISTLES</b>                                                                                                                                                                                                                                           | 3       |
| Exegetical study of Colossians, Philemon, Ephesians, Philippians, 1 & 2 Timothy, Titus, Hebrew, James, 1 & 2 Peter, Jude, and 1, 2, & 3 John, within their historical contexts. Students who have taken RELB 216 should not register for this course without special permission. |         |
| <b>RELB 466 NEW TESTAMENT EPISTLES</b>                                                                                                                                                                                                                                           | 3       |
| Exegetical study of Galatians and Romans, within their historical contexts. Students who have taken RELB 216 should not register for this course without special permission. Theology students should not register for RELB 466.                                                 |         |

## RELIGIOUS HISTORY (RElh)

|                                                                                                                                                                                                                                                                                                                                                                                                                  |     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>RElh 205 BIBLICAL ARCHAEOLOGY</b>                                                                                                                                                                                                                                                                                                                                                                             | 3   |
| Introduction to the science of archaeology with particular attention to those discoveries which bear on the interpretation of the Biblical text.                                                                                                                                                                                                                                                                 |     |
| <b>RElh 349 RELIGION IN A SOCIAL CONTEXT (HONORS)</b>                                                                                                                                                                                                                                                                                                                                                            | 4   |
| See the General Studies Honors section of this Bulletin.                                                                                                                                                                                                                                                                                                                                                         |     |
| <b>RElh 402 MODERN DENOMINATIONS</b>                                                                                                                                                                                                                                                                                                                                                                             | 3   |
| Study of the cardinal teachings of a number of the prominent denominations of the world; includes comparisons of the teachings relating to God, salvation, sin, and the future.                                                                                                                                                                                                                                  |     |
| <b>RElh 403 WORLD RELIGIONS</b>                                                                                                                                                                                                                                                                                                                                                                                  | 3   |
| Introduction to the greater religions of mankind, such as Hinduism, Buddhism, Confucianism, Shintoism, Islam, and Christianity; considers the historical setting out of which these religions arose, their founders, their basic teachings and rituals, their conceptions of God and man, as well as their influence on cultural development.                                                                    |     |
| <b>RElh 406 HISTORY OF THE ENGLISH BIBLE</b>                                                                                                                                                                                                                                                                                                                                                                     | 2   |
| Survey of the history of the Bible from the earliest manuscripts through the science of textual criticism to a comparison of the numerous English versions currently available.                                                                                                                                                                                                                                  |     |
| <b>RElh 455 EARLY CHURCH HISTORY</b>                                                                                                                                                                                                                                                                                                                                                                             | 3   |
| Study of the rise of Christianity with emphasis on the development of theological concepts. Prerequisite: ENGL 224 or permission of instructor.                                                                                                                                                                                                                                                                  |     |
| <b>RElh 456 MEDIEVAL AND MODERN CHURCH HISTORY</b>                                                                                                                                                                                                                                                                                                                                                               | 4   |
| Same as HIST 456. See the History section of this bulletin for description.                                                                                                                                                                                                                                                                                                                                      |     |
| <b>RElh 457 HISTORY OF ADVENTISM</b>                                                                                                                                                                                                                                                                                                                                                                             | 2   |
| Study of the rise and development of the Seventh-day Adventist denomination.                                                                                                                                                                                                                                                                                                                                     |     |
| <b>RElh 490 ARCHAEOLOGICAL FIELDWORK</b>                                                                                                                                                                                                                                                                                                                                                                         | 0-4 |
| Participation in an archaeological expedition. Involves all aspects of dig life — stratigraphic excavation employing the most up-to-date methodologies, careful recording and analysis of data in consultation with experts from a wide range of disciplines. Prerequisites: RELH 205 or permission of instructor. Application to the School of Theology is required by March 1 of the year the course is taken. |     |

**SOCI 449 SOCIOLOGY OF RELIGION**

See the Sociology and Social Work section of this bulletin.

2

**MISSIONS (RELM)****RELM 233 INTRODUCTION TO CROSS-CULTURAL MINISTRY**

3

Study of the major issues involved in communicating Christianity in other cultures with the aim of preparing the student for actual field work. This prerequisite for student missionaries is also open to other interested students.

**PROFESSIONAL (RELP)****RELP 150 MINISTERIAL ORIENTATION**

0

Ministerial orientation seminar offered the autumn quarter by the theology staff and visiting lecturers which includes the many facets of the ministerial profession. Required of all freshman and transfer theology majors. Graded S or NC.

**RELP 241, 242, 243 PERSONAL MINISTRY**

2, 1, 1

Study of the skills of personal ministry, including individual or small group evangelism and pastoral visitation; combines theory and practice to aid in successfully applying the art as well as teaching it to others. Open only to theology majors. Prerequisites: RELB 141; RELB 142; RELT 143.

**RELP 370 HOSPITAL MINISTERIAL TRAINING**

2 or 4

Seminar offered at the Portland Adventist Medical Center or the Walla Walla General Hospital. Besides a balanced program of clinical experience, films, discussion, and lectures by physicians, chaplains, and other resource personnel are included. Registration by permission only; class limited to five students. (Two quarter hours, Walla Walla General Hospital; four quarter hours, Portland Adventist Medical Center.)

**RELP 380 PASTORAL ADMINISTRATION AND EVANGELISM**

4

Study of theological and psychological principles of administration and evangelism applied to the church. Emphasizes Adventist church policy and programs, materials, and methods that can be used in the church's evangelistic task with observation of or participation in these phases of church activity. One laboratory per week.

**RELP 395 METHODS OF TEACHING BIBLE IN THE  
SECONDARY SCHOOL**

3

Examination of current religion teaching practices in the secondary school with emphasis on objectives, content, organization, and materials and resources available; requires observations in the schools along with microteaching, giving opportunity to demonstrate competency. Prerequisites: EDUC 390; EDUC 392.

**RELP 480 PASTORAL CARE AND COUNSELING**

4

Introduction to the principles and practices of the pastoral care of troubled persons through the application of counseling techniques, the spiritual resources of the Christian community, and theological reflection. One laboratory per week.

**RELP 483 ADVANCED PASTORAL CARE**

3

Study of the role of the pastor in relationship to his/her ministering to families; includes study of the pastor as premarital counselor, as marriage and family counselor, and as marriage and family life enrichment leader. Prerequisite: RELP 480 or permission of instructor.

**RELP 490 FIELD EVANGELISM**

1-3; 3

Experience in evangelistic techniques obtained by giving Bible studies and/or holding meetings. One to three hours any quarter; maximum, three.

## RELIGION

|                                                                                                                                                                                                                                                                                                                                                                                                                                        |         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>RELP 494 COOPERATIVE EDUCATION</b>                                                                                                                                                                                                                                                                                                                                                                                                  | 0-3     |
| Individual contract arrangement involving students, faculty, and cooperating institutions to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. For all Theology majors this is a non-credit experience required for three consecutive quarters. Prerequisites: Approval of the major advisor; CDEV 210 or permission of the Cooperative Education Director. Graded S or NC. |         |
| <b>RELP 496 SEMINAR IN PASTORAL PROBLEMS</b>                                                                                                                                                                                                                                                                                                                                                                                           | 2       |
| Intensive individual study, written reports, and group discussion on selected pastoral problems. Open only to departmental majors. Prerequisite: ENGL 224.                                                                                                                                                                                                                                                                             |         |
| <b>SPCH 381, 382, 383 BIBLICAL PREACHING</b>                                                                                                                                                                                                                                                                                                                                                                                           | 2, 2, 2 |
| See the Communications section of this bulletin.                                                                                                                                                                                                                                                                                                                                                                                       |         |
| <br><b>THEOLOGY (RELT)</b>                                                                                                                                                                                                                                                                                                                                                                                                             |         |
| <b>RELT 143 INTRODUCTION TO THE STUDY OF ELLEN WHITE'S WRITINGS</b>                                                                                                                                                                                                                                                                                                                                                                    | 3       |
| Introduction to the methods used in interpreting the writings of Ellen White. Open only to departmental majors. Prerequisites: RELB 141; RELB 142.                                                                                                                                                                                                                                                                                     |         |
| <b>RELT 201 THE CHRISTIAN WAY OF SALVATION</b>                                                                                                                                                                                                                                                                                                                                                                                         | 4       |
| Study of the Christian offer of salvation as found through Jesus Christ and the church; considers not only the future, but also contemporary moral and social dimensions of salvation.                                                                                                                                                                                                                                                 |         |
| <b>RELT 202 FUNDAMENTALS OF CHRISTIAN BELIEF</b>                                                                                                                                                                                                                                                                                                                                                                                       | 4       |
| Study of Christian teachings from Seventh-day Adventist perspective; explores topics such as revelation, God, creation, human beings and sin, the person and work of Jesus, the nature and purpose of the church, salvation, and Christian hope. Prerequisite: One college-level religion course or permission of instructor.                                                                                                          |         |
| <b>RELT 204 CONTEMPORARY ISSUES IN ADVENTIST THOUGHT</b>                                                                                                                                                                                                                                                                                                                                                                               | 4       |
| Study of current ideas and issues in Adventist theology designed for those who have an adequate background in Adventist doctrine. Will not be offered 1991-92.                                                                                                                                                                                                                                                                         |         |
| <b>RELT 221 CHRISTIAN SPIRITUALITY</b>                                                                                                                                                                                                                                                                                                                                                                                                 | 3       |
| Historical and theological survey of basic types of Christian spirituality. Emphasis on relating themes and practices of spiritual life and devotional disciplines to Biblical theology and contemporary Christian living.                                                                                                                                                                                                             |         |
| <b>RELT 246 CHRISTIAN ETHICS</b>                                                                                                                                                                                                                                                                                                                                                                                                       | 4       |
| Study of moral decision-making from the perspective of Christian theology; examines moral implications of Christian faith for contemporary issues.                                                                                                                                                                                                                                                                                     |         |
| <b>RELT 312 BIOETHICS</b>                                                                                                                                                                                                                                                                                                                                                                                                              | 4       |
| Study of contemporary moral issues in biology and medicine in the light of Christian ethics; includes topics such as abortion, euthanasia, eugenics, human experimentation, and the distribution of scarce lifesaving resources. Will not be offered 1991-92.                                                                                                                                                                          |         |
| <b>RELT 314 CHRISTIAN HOPE</b>                                                                                                                                                                                                                                                                                                                                                                                                         | 3       |
| Study of Christian eschatology with emphasis upon Biblical patterns of hope and disappointment, early Adventist end-time predictions, contemporary visions of hope offered by Seventh-day Adventists and other Christians, and the implications of eschatology for ethics.                                                                                                                                                             |         |

**RELT 317 INSPIRATION AND REVELATION**

4

Study of the concept of inspiration as revealed in the Bible writers as compared to the concept of inspiration in modern times as revealed in the person and writings of Ellen G. White.

**RELT 330 CHRISTIAN DISCIPLESHIP**

3

Study of the relationship of the individual to the church; considers the development of study skills with analysis of a member's responsibility to the church community. Emphasis in methods of Bible study, the use of tools for Bible study, organization of the church, the role of the layman in the administration of the church, and the mission of the church. Designed primarily for the nonministerial student. Prerequisite: 6 hours of religion or theology general studies credit. Will not be offered 1991-92.

**RELT 340 THEOLOGY OF SPIRITUAL CARE**

4

Study of the theological concepts that relate to the issues of human suffering and application of the Biblical principles that underlie the spiritual care of those who suffer. Offered on the Portland campus.

**RELT 404 APPROACHES TO BIBLICAL INTERPRETATION**

2

A survey of the critical disciplines employed in reading the Biblical text for ethical and theological reflection.



Missionary Volunteer Training Band

## RELIGION

|                                                                                                                                                                                                                                                     |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>RELT 412 PHILOSOPHY OF RELIGION (or PHIL 412)</b>                                                                                                                                                                                                | 4    |
| Study of religious thought and practice from a philosophical perspective; considers the arguments for the existence of God, the relationship of faith and reason, the use of religious language, and the problem of evil.                           |      |
| <b>RELT 413 GOD AND WORLD</b>                                                                                                                                                                                                                       | 3    |
| Study of God and God's relation to the world; examines traditional reasons for belief in God, the attributes and names of God, and God's creative and providential care of the world. Will not be offered 1991-92.                                  |      |
| <b>RELT 417, 418 CHRISTIAN DYNAMICS</b>                                                                                                                                                                                                             | 3, 3 |
| Study of the dynamics of the Christian spiritual life as lived individually and in the community. Topics include prayer, meditation, worship, healing, and spiritual guidance.                                                                      |      |
| <b>RELT 456, 457 SYSTEMATIC THEOLOGY I, II</b>                                                                                                                                                                                                      | 3, 3 |
| An inquiry from a Seventh-day Adventist perspective into the major themes of Christian theology; introduces students to the process of theological thinking, including systematic reflection of one's own views. Permission of instructor required. |      |
| <b>RELT 496 SEMINAR IN CHRISTIAN ETHICS</b>                                                                                                                                                                                                         | 2    |
| Intensive individual study, written reports, and group discussion on selected ethical issues. Open only to departmental majors. Prerequisite: ENGL 224.                                                                                             |      |

## BIBLICAL LANGUAGES (RLNG)

|                                                                                                                                                                                                                                                                             |         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>RLNG 121, 122, 123 GREEK I</b>                                                                                                                                                                                                                                           | 3, 3, 3 |
| Introduction to the elements of New Testament Greek with experience in translation. Language laboratory required. Prerequisites: A score of 50 percentile on the ACT composite score and 50 percentile on the ACT English scores or successful completion of ENGL 121, 122. |         |
| <b>RLNG 221, 222, 223 GREEK II</b>                                                                                                                                                                                                                                          | 3, 3, 3 |
| Continued reading in the Greek New Testament with emphasis upon principles of interpretative translation. The book of Revelation and selections from the Gospels are used in developing facility in translation.                                                            |         |
| <b>RLNG 331 INTRODUCTION TO HEBREW</b>                                                                                                                                                                                                                                      | 3       |
| Introduction to the basic elements of Biblical Hebrew; designed to enable the student to use the language as a tool in Biblical studies and to provide a basis for further study in Hebrew.                                                                                 |         |
| <b>RLNG 332, 333 ELEMENTARY HEBREW</b>                                                                                                                                                                                                                                      | 3, 3    |
| Study of Hebrew grammar and syntax advancing to reading and exegesis of selected Hebrew Bible passages. Prerequisite: RLNG 331.                                                                                                                                             |         |
| <b>RLNG 341 INTRODUCTION TO NEW TESTAMENT TEXTUAL CRITICISM</b>                                                                                                                                                                                                             | 2       |
| Survey of the history and present development of New Testament textual criticism; integration of textual criticism and translation of selected passages from Novum Testamentum Graece. Will not be offered 1991-92.                                                         |         |
| <b>RLNG 342 READINGS IN THE GREEK NEW TESTAMENT</b>                                                                                                                                                                                                                         | 2; 8    |
| Reading in selected sections of the Greek New Testament.                                                                                                                                                                                                                    |         |
| <b>RLNG 344 THE GREEK OLD TESTAMENT</b>                                                                                                                                                                                                                                     | 2       |
| Translation of selected narrative portions from the Septuagint and comparison with the Masoretic Text. Also includes translation of selected portions of Hebrews with attention to Old Testament citations. Will not be offered 1991-92.                                    |         |
| <b>RLNG 451 READINGS IN HEBREW</b>                                                                                                                                                                                                                                          | 2; 6    |
| Selected reading in the various sections of the Hebrew Bible. Prerequisites: RLNG 332, 333. Will not be offered 1991-92.                                                                                                                                                    |         |

## **SOCIAL WORK AND SOCIOLOGY**

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Wilma Hepker, Chair; Cindee Bailey, Standley Gellineau, David LaRondelle, Marja McChesney, Marilyn Schwirow-Montenegro, James Stagg, Solomon Wako.

The Department of Social Work and Sociology offers a Bachelor of Social Work degree and a Bachelor of Arts degree with a major in sociology. Minors are available in both social work and sociology.

The degree in social work is designed to prepare the student for beginning professional social work practice; to prepare students for other professions and services, particularly within the Seventh-day Adventist Church; and to prepare students for graduate professional social work education. Supervised field experience in selected social work agencies or related services is an integral part of the program and also meets the criteria of the college's Cooperative Education program. The Bachelor of Social Work program is accredited by the Council on Social Work Education.

Sociology broadens the student's perspective of the overall organization and function of society. A sociologist is concerned with the scientific study of social phenomena arising out of group relationships. A major in sociology is useful as preprofessional preparation for advanced research and teaching in sociology, community planning, public administration, law and medical professions, and other fields concerned with social relationships.

### **SOCIAL WORK (Bachelor of Social Work)**

Students enrolled in the professional curriculum must complete a total of 192 quarter hours, including the general studies requirements for a Bachelor of Science degree, the core requirements in the areas of social work, sociology, and psychology, and cognates in human biology, and political science. These include 14 hours of field practicum the senior year, which involves 420 clock hours in a supervised professional social work practice setting. In addition SOWK 495, Colloquium, is required of all junior and senior social work majors while in residence. Senior students are required to take the general section of the Graduate Record Examination and the department comprehensive examination.

#### **Major Requirements:**

##### **Social Work**

|          |                                              |    |
|----------|----------------------------------------------|----|
| SOWK 264 | Introduction to Social Work                  | 3  |
| SOWK 266 | Social Welfare as a Social Institution       | 3  |
| SOWK 350 | Field Placement Orientation                  | 1  |
| SOWK 371 | Social Work Practice with Individuals        | 4  |
| SOWK 372 | Social Work Practice with Small Groups       | 4  |
| SOWK 373 | Social Work Practice with Marriage/Family    | 3  |
| SOWK 375 | Social Work in Community Services            | 3  |
| SOWK 465 | Policy, Planning and Administration          | 3  |
| SOWK 466 | Comparative Theories of Social Work Practice | 3  |
| SOWK 490 | Field Work                                   | 14 |
| SOWK 491 | The Life Model of Social Work Practice       | 3  |
| SOWK 495 | Colloquium                                   | 0  |

(required of all Social Work juniors and seniors while in residence)

## SOCIAL WORK AND SOCIOLOGY

### Sociology

|               |                                  |   |
|---------------|----------------------------------|---|
| SOCI 204      | General Sociology                | 4 |
| SOCI 236      | Racial and Ethnic Relations      | 3 |
| SOCI 324      | Human Development and the Family | 4 |
| SOCI 451      | Research Methods                 | 4 |
| SOCI 452, 453 | Research Practicum I, II         | 2 |

### Psychology

|          |                    |   |
|----------|--------------------|---|
| PSYC 130 | General Psychology | 4 |
|----------|--------------------|---|

### Electives (17 Total)

|                                      |           |
|--------------------------------------|-----------|
| Psychology                           | 3-7       |
| Social Work                          | 6-14      |
| Anthropology, Corrections, Sociology | 0-8       |
|                                      | <u>82</u> |

Electives must be chosen in consultation with and approved by the social work adviser.

### Cognates:

|          |                                                      |   |
|----------|------------------------------------------------------|---|
| BIOL 101 | General Biology                                      | 4 |
| or       |                                                      |   |
| BIOL 105 | Biology for General Studies                          |   |
| or       |                                                      | 4 |
| BIOL 201 | Anatomy and Physiology                               |   |
| PLSC 224 | American Government                                  |   |
| or       |                                                      | 4 |
| PLSC 324 | Comparative Government                               |   |
| or       |                                                      |   |
| PLSC 455 | Western Political and Social Theory<br>(or SOCI 455) |   |
| or       |                                                      |   |
| ECON 211 | Principles of Macroeconomics                         |   |

## MAJOR IN SOCIOLOGY (Bachelor of Arts)

A student majoring in sociology must complete 45 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

### Major Requirements:

|               |                                       |           |
|---------------|---------------------------------------|-----------|
| SOCI 204      | General Sociology                     | 4         |
| SOCI 451      | Research Methods                      | 4         |
| SOCI 452, 453 | Research Practicum I, II              | 2         |
| SOCI 454      | Western Political and Social Thought  | 4         |
| SOCI 455      | Western Political and Social Theory   | 4         |
|               | Electives (10 must be upper division) | 27        |
|               |                                       | <u>45</u> |

Electives may be chosen from the following courses: All SOCI prefixes, ANTH 225, CORR 285, CORR 365, CORR 385, CORR 387, SOWK 266 and SOWK 465.

Approval of sociology adviser required.

**Cognates:**

|                |                       |   |
|----------------|-----------------------|---|
| MATH 106       | Applied Statistics    | } |
| or<br>PSYC 350 | Elementary Statistics |   |

4

**MINOR IN SOCIAL WORK**

A student minoring in social work must complete 30 quarter hours:

|          |                                        |           |
|----------|----------------------------------------|-----------|
| SOCI 204 | General Sociology                      | 4         |
| SOCI 324 | Human Development and the Family       | 4         |
| SOWK 264 | Introduction to Social Work            | 3         |
| SOWK 266 | Social Welfare as a Social Institution | 3         |
|          | Electives                              | <u>16</u> |

Approval of social work adviser required.

30

**MINOR IN SOCIOLOGY**

A student minoring in sociology must complete 30 quarter hours:

|          |                                      |           |
|----------|--------------------------------------|-----------|
| SOCI 204 | General Sociology                    | 4         |
|          | Electives (3 must be upper division) | <u>26</u> |
|          |                                      | 30        |

Approval of sociology adviser required.

**ANTHROPOLOGY (ANTH)****ANTH 225 CULTURAL ANTHROPOLOGY**

3

Study of the origin and nature of culture, the uniformities and variations in man's cultural development as seen in preliterate societies, with special emphasis upon the value of the cultural concept.

**CORRECTIONS, LAW ENFORCEMENT AND CRIMINAL JUSTICE (CORR)****CORR 285 INTRODUCTION TO CRIMINAL JUSTICE**

3

Study of the philosophy and history of law enforcement; includes an overview of crime and police problems, agencies involved in administration of criminal justice, processes of justice from detection of crime to parole of offenders, evaluation of modern police services, and a survey of professional career opportunities and qualifications required. Observations and field trips arranged.

**CORR 365 LAW, POLICY AND SOCIETY**

2

Study of the development and organization of the American legal system and policy formation; considers the work of lawyers, social workers, legislators, and police and their relationship with the courts and human services system. Selected topics are considered which relate the law to social change, social institutions, and morality and justice. Will not be offered 1991-92.

**CORR 385 CRIMINOLOGY**

3

Study of the historical background of crime and factors of deviant social behavior; includes a survey of criminological theories to analyze contributing factors and evaluate remedial measures now in common use. Visits to agencies and institutions arranged.

**CORR 387 JUVENILE DELINQUENCY**

3

Study of delinquency, juvenile courts, detention, and probation; investigation and comparison of programs of treatment and prevention. Field trips arranged.

## SOCIAL WORK AND SOCIOLOGY

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| <b>CORR 487 PERSPECTIVES ON THE TREATMENT OF OFFENDERS</b>                                                                                                                                                                                                              | <b>3</b> |
| Study of the treatment given juvenile and adult offenders from arrest, through the court process and incarceration, to release. Field trips and guest speakers help the student evaluate the effectiveness of the criminal justice system. Will not be offered 1991-92. |          |

## ENVIRONMENTAL STUDIES (ENVI)

|                                                                                                                 |          |
|-----------------------------------------------------------------------------------------------------------------|----------|
| <b>ENVI 385 THE ENVIRONMENT AND MAN</b>                                                                         | <b>4</b> |
| Interdisciplinary consideration of current topics involving the interrelations between man and his environment. |          |

## SOCIAL WORK (SOWK)

|                                                                                                                                                                                                                                |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>SOWK 264 INTRODUCTION TO SOCIAL WORK</b>                                                                                                                                                                                    | <b>3</b> |
| Introduction to the profession of social work in the United States; considers history, principles, methods, and values of the social worker and settings for social work practice. Community service and field trips arranged. |          |

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>SOWK 266 SOCIAL WELFARE AS A SOCIAL INSTITUTION</b>                                                                                                                                                                                                    | <b>3</b> |
| Study of the historical development of U.S. social welfare system; examination of current social welfare institutions in terms of political, social, and value systems and in terms of needs they attempt to fulfill. Recommended prerequisite: SOWK 264. |          |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>SOWK 271 ASSERTIVENESS THEORY AND PRACTICE</b>                                                                                                                       | <b>2</b> |
| Study of the concepts of rational and behavior techniques with emphasis on self-awareness, intervention, and assertiveness through cognitive and experiential learning. |          |

|                                                                                                                                                                                                                       |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>SOWK 350 FIELD PLACEMENT ORIENTATION</b>                                                                                                                                                                           | <b>1</b> |
| A field placement orientation seminar intended to make students aware of agency possibilities, application and evaluation procedures, contracts, and the field instruction learning process. Required of all juniors. |          |

|                                                                                                                                                                                                                                                                                                                                                         |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>SOWK 371 SOCIAL WORK PRACTICE WITH INDIVIDUALS</b>                                                                                                                                                                                                                                                                                                   | <b>4</b> |
| Introduction to social work methods provided through a survey of basic intervention skills and basic interviewing techniques; explores the Christian value system as it relates to social work practice. Students participate in field experiences and video-taped interviews. Prerequisites: PSYC 130, SOCI 204, SOWK 264 or permission of instructor. |          |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>SOWK 372 SOCIAL WORK PRACTICE WITH SMALL GROUPS</b>                                                                                                                              | <b>4</b> |
| Introduction to the group process skills to build a basic foundation for group intervention methods. Students will participate in and observe small groups. Prerequisite: SOWK 371. |          |

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| <b>SOWK 373 SOCIAL WORK PRACTICE WITH MARRIAGE AND FAMILY</b>                                                                                                                                                                                            | <b>3</b> |
| Study of basic intervention skills expanded by experiencing family and marriage dynamics through role playing. Students will be exposed to various types of family practice intervention methods by audiovisual aids. Prerequisites: SOWK 371; SOWK 372. |          |

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| <b>SOWK 375 SOCIAL WORK IN COMMUNITY SERVICES</b>                                                                                                                                | <b>3</b> |
| Study of the social work method known as community organization in meeting the needs of large groups of persons such as churches, schools, and neighborhoods; emphasizes skills. |          |

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| <b>SOWK 377 INTRODUCTION TO ALCOHOLISM AND ADDICTION TREATMENT</b>                                                                                                                                                                         | <b>3</b> |
| A comprehensive survey covering the basic aspects of alcohol, alcoholism, prevention and intervention, rehabilitation and treatment. Alcoholism and other addictions are studied as disease processes. Recommended prerequisite: HLSC 208. |          |

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| <b>SOWK 464 SOCIAL WORK WITH CHILDREN</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>3</b>        |
| Study of social work intervention in child welfare; includes adoption, foster homes, child protection, illegitimacy, group homes, day care, children's institutions, and dependency; study of historical and contemporary development.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |
| <b>SOWK 465 POLICY, PLANNING AND ADMINISTRATION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>3</b>        |
| Study of social policy, ideology, social policy formation and analysis, social planning, and administrative theory. Prerequisite: SOWK 375.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |
| <b>SOWK 466 COMPARATIVE THEORIES OF SOCIAL WORK PRACTICE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>3</b>        |
| Study of intervention strategies, change theories, and therapeutic techniques employed at individual, family, and group levels. Emphasizes criteria for selecting alternative approaches and appropriate intervention activities. Prerequisites: SOWK 264; SOWK 266; SOWK 371; SOWK 372; SOWK 373 or permission of instructor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |
| <b>SOWK 471 HUMAN SEXUALITY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>3</b>        |
| Study of the Christian perspective of human sexuality which forms a basis for appropriate intervention with sexual problems. Prerequisite: SOWK 371; SOWK 373 or permission of the instructor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |
| <b>SOWK 472 STRESS MANAGEMENT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>3</b>        |
| Designed to guide the student in planning practical strategies for personal stress management. A holistic approach emphasizing physical, mental, emotional, and spiritual aspects of a positive Christian lifestyle. The works of Hans Selye and other theoreticians of modern stress management are considered. Students will develop skills in time management, and techniques of meditation and relaxation and exercise. Also considered is the market for stress management education in Employee Assistance Programs. Prerequisites: PSYC 130 or SOCI 204.                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |
| <b>SOWK 479 DIRECTED RESEARCH/PROJECTS IN SOCIAL WORK</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>1-3</b>      |
| Directed learning experience in a special area of social work of particular interest to the student. A single project will be chosen in consultation with the instructor. A written report is required describing the project, the theoretical base, the learning experience, and the conclusions. Prerequisites: SOWK 264; SOWK 371.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |
| <b>SOWK 490 FIELD WORK</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>2-14; 14</b> |
| Training under a professional social worker in a public or private welfare or correction agency. Credit is earned at the rate of one quarter hour for three hours of field work per week approved by the supervisor and instructor. Written reports and evaluations are included. Placement may be taken in one quarter (block placement) or concurrently with course work over two or three consecutive quarters. Applications for placement must be submitted to the Placement Coordinator at least one quarter prior to the placement itself. Instruction is offered at various locations in such fields as medical social work, school social work, secondary school residence counseling, criminal justice, child and protective services, and community organization. Prerequisites: SOCI 204; SOWK 264; SOWK 266; SOWK 350; SOWK 371; SOWK 372; and permission of the instructor. Corequisite or prerequisite: SOWK 373. Fourteen quarter hours are required for a social work major. |                 |
| <b>SOWK 491 THE LIFE MODEL OF SOCIAL WORK PRACTICE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>3</b>        |
| Seminar for social work majors to assist them in integrating theory and practice and in conceptualizing how social work roles affect the relationship between people and their environment. The many roles and functions facing social work practitioners within diverse settings will be emphasized. In addition ethical and value dilemmas in practice will be highlighted. Prerequisites: SOWK 264; SOWK 371; SOWK 372. Corequisite: SOWK 373.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |
| <b>SOWK 495 COLLOQUIUM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>0</b>        |
| Lecture series designed to expose students to contemporary social workers and to assist them in their professional development. Required of all social work juniors and seniors while in residence. Graded S or NC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |

Please see the *Graduate Bulletin* for a listing of Social Work graduate courses.

## SOCIAL WORK AND SOCIOLOGY

### SOCIOLOGY (SOCI)

#### SOCI 204 GENERAL SOCIOLOGY

4

Study of the fundamentals of group behavior, social conditions, and dynamics; considers culture, groups, population trends, religions, institutions, social problems, theories, and objectives.

#### SOCI 225 MARRIAGE AND FAMILY LIFE

2

Study of the physical, economic, and psychological adjustments necessary for happy marriage and parenthood; stresses Christian philosophy and principles; staff members and guest speakers will lecture and lead discussions.

#### SOCI 234 CURRENT SOCIAL PROBLEMS

3

Study of theoretical perspectives of social problems of particular concern in contemporary society.



*Enjoying front campus while working together*

#### SOCI 236 RACIAL AND ETHNIC RELATIONS

3

Study of the history, present status and problems of racial, religious and ethnic minorities in the United States and other countries.

#### SOCI 324 HUMAN DEVELOPMENT AND THE FAMILY

4

Study of the individual as seen in the context of the family; explores the interrelation of biological, psychological, and sociocultural systems and their effect on human development and behavior; covers the complete life cycle of the growth of an individual and current theories concerning each stage of the family life cycle as it applies to the modern American family as well as families of other cultures. Prerequisites: SOCI 204; PSYC 130.

#### SOCI 325 THE SOCIAL PSYCHOLOGY OF FAMILY LIFE

3

Study of the social-psychological aspects of family life, emphasizing the role of family interaction in developing and maintaining personal relationships.

#### SOCI 327 SOCIOLOGY OF SEX ROLES

3

Analysis of the psychological, cultural, and economic influences on men and women in today's society. Includes such topics as sex role stereotyping, sex bias, men and masculinity, current dilemmas faced by men, a history of women's issues, the battered woman. Special emphasis on the relationship of the Christian woman to women's liberation, the Christian woman's role in the church, and sex roles and the Christian family.

|                                                                                                                                                                                                                                                                                                                                             |             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>SOCI 345 SOCIOLOGY OF COMMUNITIES</b>                                                                                                                                                                                                                                                                                                    | <b>3</b>    |
| Study of the social structure and interaction patterns of communities; emphasizes the history of community development, urbanization, and its effects on society.                                                                                                                                                                           |             |
| <b>SOCI 349 RELIGION IN A SOCIAL CONTEXT (HONORS)</b>                                                                                                                                                                                                                                                                                       | <b>4</b>    |
| See General Studies Honors section of this Bulletin.                                                                                                                                                                                                                                                                                        |             |
| <b>SOCI 435 SOCIAL GERONTOLOGY</b>                                                                                                                                                                                                                                                                                                          | <b>3</b>    |
| Study of problems concerning the social role of the aged in society. Will not be offered 1991-92.                                                                                                                                                                                                                                           |             |
| <b>SOCI 437 DEATH AND DYING</b>                                                                                                                                                                                                                                                                                                             | <b>3</b>    |
| Study of the process of death and dying from four distinct perspectives: cultural, social, personal, and professional. Will not be offered 1991-92.                                                                                                                                                                                         |             |
| <b>SOCI 444 SOCIOLOGY OF EDUCATION</b>                                                                                                                                                                                                                                                                                                      | <b>3</b>    |
| Analysis of factors influencing the structure and function of schools. Sociological factors related to the role of the school as a social system, with emphasis on peer groups and teenage subcultures, leadership types, power groups, and the school as a selecting and sorting agency; sociometric devices. Will not be offered 1991-92. |             |
| <b>SOCI 447 SOCIOLOGY OF HEALTH AND ILLNESS</b>                                                                                                                                                                                                                                                                                             | <b>3</b>    |
| Study of social relations and culture as factors affecting health and illness, and the prevention and treatment of illness. Will not be offered 1991-92.                                                                                                                                                                                    |             |
| <b>SOCI 449 SOCIOLOGY OF RELIGION</b>                                                                                                                                                                                                                                                                                                       | <b>2</b>    |
| Sociological study of organized religion, emphasizing the interaction between the church and its social setting; includes varieties and sources of collective religious behavior with examination and classification of religious movements and reforms. Will not be offered 1991-92.                                                       |             |
| <b>SOCI 451 RESEARCH METHODS</b>                                                                                                                                                                                                                                                                                                            | <b>4</b>    |
| Introduction to the principles of research design; data collection through surveys and other methods; scaling, sampling; computer assisted statistical analysis. Statistics highly recommended. Laboratory required. Same as MKTG 451 and PLSC 451.                                                                                         |             |
| <b>SOCI 452, 453 RESEARCH PRACTICUM I, II</b>                                                                                                                                                                                                                                                                                               | <b>1, 1</b> |
| Directed design and execution of an empirical research project over a two quarter period.                                                                                                                                                                                                                                                   |             |
| <b>SOCI 454 WESTERN POLITICAL AND SOCIAL THOUGHT</b>                                                                                                                                                                                                                                                                                        | <b>4</b>    |
| Survey of political and social thought from classical Greece to the Enlightenment. Same as PLSC 454. Offered odd years only.                                                                                                                                                                                                                |             |
| <b>SOCI 455 WESTERN POLITICAL AND SOCIAL THEORY</b>                                                                                                                                                                                                                                                                                         | <b>4</b>    |
| Survey of modern social, political, and economic thought. Emphasizes 19th and 20th century theories and models which have directed contemporary research in the social sciences and have influenced public policy. Same as PLSC 455. Offered odd years only.                                                                                |             |

## TECHNOLOGY

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Dale Visger, Chair; Chet Blake, Don Dawes, Kenneth Gruesbeck, Leonard Laabs, Allen Payne, William Rouse.

The Technology Department provides quality technological instruction in a Christian environment, preparing students to work in the service industries as industrial technologists, entrepreneurs, or teachers of technology education.

The four-year technology college graduate is associated with the managerial, engineering, scientific, and supervisory activities of the industrial world. A broad preparation is given for manufacturing management in industry which enables the graduate to work with and contribute to the ideas of professional engineers and scientists, as well as supervise and manage the use of materials and machines for producing, distributing, and servicing industrial products.

Courses in technology provide non-majors with the opportunity of developing occupational skills in a second field or strengthening their background in the applied arts technologically oriented society.

Programs leading to the **Bachelor of Science** degree in Technology include a core of 30 credit hours and concentrations in the following technology areas: automotive, aviation, biomedical electronics, electronics, graphics, and technology specialist.

The **Associate of Science** degree in Technology is offered with concentrations in automotive, aviation, electronics, and graphics. Each curriculum is designed to prepare graduates for employment in that particular field. In each case, a broad technical background is offered balancing theory with laboratory experience. These programs are especially designed to serve students who wish to complete their technical training in a Christian environment with minimal general studies and time requirements. The programs are planned so that continuance in the baccalaureate program may occur with minimal loss of credit. The Associate of Science degree requires the completion of 96 quarter hours.

The **Certificate Programs** are designed for completion in one year with almost total emphasis on the technical specialty. The following programs offer the opportunity of technical training in auto mechanics, aviation, offset copy and preparation, and printing.

These programs are planned so that students may continue in a degree program with minimal loss of credit. To qualify for a certificate, the students must maintain a cumulative grade-point average of 2.00. The certificate program requires the completion of 48 quarter hours.

The **Applied Technology Programs** provide technical job entry skills on a Christian campus, high quality technical training without any of the non-technical obligations of a degree program, mastery of theory and performance skills, programs placing emphasis on student learning accountability, intensive education, and training in a selected area of interest.

The Applied Technology Program is for persons who want to enter the job market for the first time, persons in need of retraining for employment, or students desiring job skill training along with a regular college major without the skill training's affecting their grade-point average.

The length of an Applied Technology program will depend on a variety of factors including, previous knowledge, type of technical program, number of competencies desired, and rate of accomplishment.

Admittance to Applied Technology programs is limited to those who have completed high school, passed the GED examinations, or received special permission of the department. Students should follow regular application procedures.

### TECHNOLOGY (Bachelor of Science)

A student majoring in technology must complete the core requirements, the required cognates, one concentration, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

#### Core Requirements:

The technology core consists of a group of studies which emphasize the enduring fundamentals common to the many branches of technology. These studies will help provide career mobility within the specific technology. They will also provide the wealth of understanding necessary to be effective in the chosen concentration.

#### Lower Division courses:

|                    |                               |   |
|--------------------|-------------------------------|---|
| DRFT 121, 122      | Technical Drafting and Design | 4 |
| ELCT 241           | Fundamentals of Electronics   | 4 |
| TECH 124           | Introduction to Technology    | 1 |
| TECH 235, 236, 237 | Materials and Processes       | 6 |

#### Upper Division Courses:

|               |                                     |   |
|---------------|-------------------------------------|---|
| ELCT 335      | Computer Applications in Technology | 3 |
| TECH 325      | Power and Energy                    | 3 |
| TECH 356, 357 | Management in Technology            | 4 |
| TECH 364      | Occupational health & Safety        | 2 |
| TECH 497      | Senior Seminar                      | 1 |
| TECH 498      | Senior Problem Phase I              | 1 |
| TECH 499      | Senior Problem Phase II             | 1 |

#### CONCENTRATION: Automotive Technology

|               |                                       |   |
|---------------|---------------------------------------|---|
| AUTO 134      | Internal Combustion Engine Theory     | 2 |
| AUTO 135      | Internal Combustion Engine Laboratory | 2 |
| AUTO 145      | Power Train Theory                    | 2 |
| AUTO 146      | Power Train Laboratory                | 2 |
| AUTO 156      | Fuel & Electrical Systems Theory      | 2 |
| AUTO 157      | Fuel & Electrical Systems Laboratory  | 2 |
| AUTO 314      | Engine Diagnosis & Tune-up            | 2 |
| AUTO 315      | Engine Diagnosis & Tune-up Laboratory | 2 |
| AUTO 345, 346 | Automotive Service                    | 4 |
| AUTO 347, 348 | Automotive Service Laboratory         | 4 |
| AUTO 365      | Diesel Engines                        | 3 |
| AUTO 366      | Computerized Engine Controls          | 3 |
| ELCT 252      | Solid State Devices                   | 4 |
| TECH 280      | Practicum (in automotive)             | 2 |
| TECH 480      | Advanced Practicum (in automotive)    | 3 |
|               | Electives                             | 9 |

Electives must be chosen in consultation with and approved by the academic advisor assigned by the department chair.

48

## TECHNOLOGY

### Cognates:

|                            |                                      |   |
|----------------------------|--------------------------------------|---|
| ACCT 201                   | Principles of Accounting             | 4 |
| CPTR 105                   | Personal Computing                   | 3 |
| MGMT 275<br>or<br>MGMT 371 | Management of Small Business         | 3 |
|                            | Management & Organizational Behavior | 3 |
|                            | Business Electives                   | 4 |

Business electives must be chosen from the following prefixes in consultation with and approved by the academic adviser assigned by the department chair: ACCT, GBUS, MGMT, MKTG.

### CONCENTRATION: Aviation Technology

|          |                                               |     |
|----------|-----------------------------------------------|-----|
| AVIA 124 | Introduction to Aviation                      | 2   |
| AVIA 141 | Private Pilot Lectures                        | 4   |
| AVIA 142 | Private Pilot Flight Training                 | 3   |
| AVIA 143 | Advanced Private Pilot Flight Training        | 3   |
| AVIA 234 | Meteorology                                   | 2   |
| AVIA 256 | Principles of Aircraft Maintenance            | 4   |
| AVIA 260 | Pre-Instrument Pilot Flight Training          | 4   |
| AVIA 262 | Instrument Pilot Flight Training              | 3   |
| AVIA 263 | Advanced Instrument Pilot Flight Training     | 3   |
| AVIA 335 | Commercial Pilot Flight Training              | 4   |
| AVIA 336 | Advanced Commercial Pilot Flight Training     | 5   |
| AVIA 357 | Commercial and Flight Instructor Lectures     | 3   |
| AVIA 358 | Flight Instructor-Airplane Flight Trng        | 3   |
| AVIA 361 | Instrument & Flight Instructor Lec            | 4-5 |
| AVIA 458 | Flight Instructors-Instrument Flight Training | 3   |
|          | Electives                                     | 3   |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

### Cognates:

|                            |                                      |   |
|----------------------------|--------------------------------------|---|
| ACCT 201                   | Principles of Accounting             | 4 |
| CPTR 105                   | Personal Computing                   | 3 |
| MGMT 275<br>or<br>MGMT 371 | Management of Small Business         | 3 |
|                            | Management & Organizational Behavior | 3 |
|                            | Business Electives                   | 4 |

Business Electives must be chosen from the following prefixes in consultation with and approved by the academic adviser assigned by the department chair: ACCT, GBUS, MGMT, MKTG.

### CONCENTRATION: Biomedical Electronics Technology

|               |                               |    |
|---------------|-------------------------------|----|
| ELCT 242      | Electronic Circuit Analysis   | 5  |
| ELCT 252      | Solid State Devices           | 4  |
| ELCT 253      | Electronic Amplifier Circuits | 5  |
| ELCT 263      | Electronic Circuits           | 5  |
| ELCT 297, 298 | Electronics Fabrication       | 2  |
| ELCT 326      | Hospital Safety               | 2  |
| ELCT 331, 332 | Medical Electronics           | 10 |
| ELCT 362      | Digital Integrated Circuits   | 5  |
| ELCT 372      | Computer Circuits and Systems | 4  |

|      |          |                                   |           |
|------|----------|-----------------------------------|-----------|
| ELCT | 381, 382 | Television Systems and Circuits   | 8         |
| ELCT | 490      | Directed Hospital Experience      | 4-16      |
| TECH | 280      | Practicum (medical electronics)   | 3         |
| TECH | 480      | Advanced Practicum (medical elec) | 0-2       |
| TECH | 494      | Cooperative Education             | 0-2       |
|      |          |                                   | <u>65</u> |

**Cognates:**

|      |          |                                   |     |
|------|----------|-----------------------------------|-----|
| BIOL | 201, 202 | Anatomy and Physiology            | 8   |
| CPTR | 105      | Personal Computing                | 3   |
| MATH | 117      | Precalculus                       |     |
| or   |          |                                   |     |
| MATH | 121, 122 | Fundamentals of Mathematics I, II | 5-8 |
| CHEM | 101, 102 | Introductory Chemistry            |     |
| or   |          |                                   |     |
| PHYS | 201, 202 | Invitation to Physics             | 8   |
| PHYS | 204, 205 | Invitation to Physics Laboratory  |     |

**CONCENTRATION: Electronics Technology**

|      |          |                                  |           |
|------|----------|----------------------------------|-----------|
| ELCT | 242      | Electronic Circuit Analysis      | 5         |
| ELCT | 252      | Solid State Devices              | 4         |
| ELCT | 253      | Electronic Amplifier Circuits    | 5         |
| ELCT | 263      | Electronic Circuits              | 5         |
| ELCT | 297, 298 | Electronics Fabrication          | 2         |
| ELCT | 362      | Digital Integrated Circuits      | 5         |
| ELCT | 372      | Computer Circuits and Systems    | 4         |
| ELCT | 381, 382 | Television Systems and Circuits  | 8         |
| TECH | 280      | Practicum (electronics)          | 3         |
| TECH | 480      | Advanced Practicum (electronics) | 2         |
|      |          | Electives                        | 4         |
|      |          |                                  | <u>47</u> |

**Cognates:**

|      |               |                                      |     |
|------|---------------|--------------------------------------|-----|
| CPTR | 105           | Personal Computing                   | 3   |
| CPTR | 141           | Introduction to Programming (Pascal) | 4   |
| MATH | 117           | Precalculus                          |     |
| or   |               |                                      |     |
| MATH | 121, 122      | Fundamentals of Mathematics I, II    | 5-8 |
| PHYS | 211, 212, 213 | General Physics                      | 9   |
| PHYS | 214, 215, 216 | General Physics Lab                  | 3   |

**CONCENTRATION: Graphics Technology**

|      |               |                                          |         |
|------|---------------|------------------------------------------|---------|
| GRPH | 221, 222, 223 | Introduction to Graphics and Lithography | 4, 3, 3 |
| GRPH | 271           | Computer Assisted Publishing             | 2       |
| GRPH | 272, 273      | Computer Composition                     | 4       |
| GRPH | 295           | Printing Layout and Design               | 3       |
| GRPH | 326           | Printing Estimating                      | 3       |
| GRPH | 331           | Advanced Halftone Photography            | 2       |
| GRPH | 421           | Color Separations                        | 3       |
| PHTO | 154           | Principles of Photography                | 2       |
| PHTO | 155           | Principles of Photography Laboratory     | 1       |
| TECH | 480           | Advanced Practicum (in graphics)         | 4       |

## TECHNOLOGY

|          |                                    |               |
|----------|------------------------------------|---------------|
| TECH 494 | Cooperative Education<br>Electives | 12<br>3<br>48 |
|----------|------------------------------------|---------------|

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

### Cognates: (Choose Business or Commercial Art emphasis)

#### Business Emphasis:

|          |                                                            |          |
|----------|------------------------------------------------------------|----------|
| ACCT 201 | Principles of Accounting                                   | 4        |
| CPTR 105 | Personal Computing                                         | 3        |
| MGMT 275 | Management of Small Business                               |          |
| or       |                                                            |          |
| MGMT 371 | Management & Organizational Behavior<br>Business Electives | 3.4<br>4 |

Business Electives must be chosen from the following prefixes in consultation with and approved by the academic adviser assigned by the department chair: ACCT, GBUS, MGMT, MKTG.

#### Commercial Art Emphasis:

|                   |                                |   |
|-------------------|--------------------------------|---|
| ART 161, 162, 163 | Design                         | 9 |
| ART 244, 245, 246 | Introduction to Commercial Art | 6 |
| ART 314, 315, 316 | Advertising Design             | 9 |

### CONCENTRATION: Technology Specialist

For students who have career goals or special interests in areas other than those provided for in one of the established concentrations, a special individualized concentration is available.

|          |                                       |    |
|----------|---------------------------------------|----|
| AUTO 114 | Personal Car Care                     |    |
| or       |                                       |    |
| AUTO 134 | Internal Combustion Engine Theory     |    |
| and      |                                       |    |
| AUTO 135 | Internal Combustion Engine Laboratory | 3  |
| AVIA 124 | Introduction to Aviation              | 2  |
| GRPH 271 | Computer Assisted Publishing          | 2  |
| TECH 280 | Practicum (in technology)             | 6  |
| TECH 480 | Advanced Practicum (in technology)    | 6  |
| TECH 494 | Cooperative Education                 | 10 |
|          | Electives                             | 26 |
|          |                                       | 55 |

An individualized concentration must be planned to meet the career goals of the student, before the beginning of the junior year with the assistance of his or her adviser.

The concentration must be approved by the department faculty.

#### Cognates:

|          |                                                            |          |
|----------|------------------------------------------------------------|----------|
| ACCT 201 | Principles of Accounting                                   | 4        |
| CPTR 105 | Personal Computing                                         | 3        |
| MGMT 275 | Management of Small Business                               |          |
| or       |                                                            |          |
| MGMT 371 | Management & Organizational Behavior<br>Business Electives | 3.4<br>4 |

Business electives must be chosen from the following prefixes in consultation with and approved by the academic adviser assigned by the department chair: ACCT, GBUS, MGMT, MKTG.

**TECHNOLOGY (Associate of Science)**

A student majoring in technology must complete the core requirements, the required cognates, one concentration, the general studies program, and all Associate of Science degree requirements as outlined in this bulletin.

**Core Requirements:**

The technology core consists of a group of studies which emphasize the enduring fundamentals common to the many branches of technology. These studies will help provide career mobility within the specific technology. They will also provide the wealth of understanding necessary to be effective in the chosen concentration.

|               |                                |           |
|---------------|--------------------------------|-----------|
| DRFT 121, 122 | Technical Drafting and Design  | 4         |
| TECH 124      | Introduction to Technology     | 1         |
| TECH 125      | Measurements in Technology     | 3         |
| TECH 364      | Occupational Health and Safety | 2         |
|               |                                | <u>10</u> |

**CONCENTRATION: Automotive Technology**

|               |                                       |   |
|---------------|---------------------------------------|---|
| AUTO 134      | Internal Combustion Engine Theory     | 2 |
| AUTO 135      | Internal Combustion Engine Laboratory | 2 |
| AUTO 145      | Power Train Theory                    | 2 |
| AUTO 146      | Power Train Laboratory                | 2 |
| AUTO 156      | Fuel & Electrical Systems Theory      | 2 |
| AUTO 157      | Fuel & Electrical Systems Theory      | 2 |
| AUTO 286      | Engine Rebuilding Laboratory          | 2 |
| AUTO 314      | Engine Diagnosis & Tune-up            | 2 |
| AUTO 315      | Engine Diagnosis & Tune-up Laboratory | 2 |
| AUTO 345, 346 | Automotive Service                    | 4 |
| AUTO 347, 348 | Automotive Service                    | 4 |
| AUTO 365      | Diesel Engines                        | 3 |
| AUTO 366      | Computerized Engine Controls          | 3 |
| ELECT 252     | Solid State Devices                   | 4 |
| TECH 280      | Practicum (in automotive)             | 2 |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

49

**Cognates:**

|          |                    |   |
|----------|--------------------|---|
| CPTR 105 | Personal Computing | 3 |
|----------|--------------------|---|

**CONCENTRATION: Aviation Technology**

|          |                                        |   |
|----------|----------------------------------------|---|
| AVIA 124 | Introduction to Aviation               | 2 |
| AVIA 141 | Private Pilot Lectures                 | 4 |
| AVIA 142 | Private Pilot Flight Training          | 3 |
| AVIA 143 | Advanced Private Pilot Flight Training | 3 |
| AVIA 234 | Meteorology                            | 2 |
| AVIA 256 | Principles of Aircraft Maintenance     | 4 |
| AVIA 260 | Pre-Instrument Pilot Flight Training   | 4 |
| AVIA 262 | Instrument Pilot Flight Training       | 3 |
| AVIA 263 | Adv Instrument Pilot Flight Training   | 3 |
| AVIA 335 | Commercial Pilot Flight Training       | 4 |

## TECHNOLOGY

|          |                                         |     |
|----------|-----------------------------------------|-----|
| AVIA 336 | Adv Commercial Pilot Flight Training    | 5   |
| AVIA 357 | Commercial & Flight Instructor Lectures | 3-4 |
| AVIA 361 | Instrument & Flight Instructor Lectures | 4-5 |
|          | Electives                               | 3   |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

|                  |                    |   |
|------------------|--------------------|---|
| <b>Cognates:</b> |                    |   |
| CPTR 105         | Personal Computing | 3 |

### CONCENTRATION: Electronics Technology

|               |                                 |   |
|---------------|---------------------------------|---|
| ELCT 241      | Fundamentals of Electronics     | 4 |
| ELCT 242      | Electronic Circuit Analysis     | 5 |
| ELCT 252      | Solid State Devices             | 4 |
| ELCT 253      | Electronic Amplifier Circuits   | 5 |
| ELCT 263      | Electronic Circuits             | 5 |
| ELCT 297, 298 | Electronics Fabrication         | 2 |
| ELCT 362      | Digital Integrated Circuits     | 5 |
| ELCT 372      | Computer Circuits and Systems   | 4 |
| ELCT 381, 382 | Television Systems and Circuits | 8 |
| TECH 280      | Practicum (in electronics)      | 3 |
|               | Electives                       | 2 |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

|                  |                    |   |
|------------------|--------------------|---|
| <b>Cognates:</b> |                    |   |
| CPTR 105         | Personal Computing | 3 |

### CONCENTRATION: Graphics Technology

|                    |                                      |      |
|--------------------|--------------------------------------|------|
| GRPH 221, 222, 223 | Intro to Graphics and Lithography    | 9-10 |
| GRPH 271           | Computer Assisted Publishing         | 2    |
| GRPH 272, 273      | Computer Composition                 | 4    |
| GRPH 295           | Printing Layout and Design           | 3    |
| PHTO 154           | Principles of Photography            | 2    |
| PHTO 155           | Principles of Photography Laboratory | 1    |
| TECH 280           | Practicum (in graphics)              | 5    |
| TECH 494           | Cooperative Education                | 12   |
|                    | Electives                            | 5    |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

|                  |                    |   |
|------------------|--------------------|---|
| <b>Cognates:</b> |                    |   |
| CPTR 105         | Personal Computing | 3 |

## TECHNOLOGY (Certificate Program)

A student taking a certificate program must complete the core requirements, the required cognates, one concentration, and the general studies program and Certificate requirements as outlined in this Bulletin.

**Core Requirements:**

The certificate core consists of studies which emphasize the enduring fundamentals common to many branches of technology. These will provide a wealth of understanding necessary in the chosen concentration.

|          |                               |          |
|----------|-------------------------------|----------|
| DRFT 121 | Technical Drafting and Design | 2        |
| TECH 124 | Introduction to Technology    | 1        |
| TECH 125 | Measurements in Technology    | 3        |
|          |                               | <u>6</u> |

**AUTO MECHANICS (Certificate)**

A student taking auto mechanics must complete the following 29 quarter hours and the general studies courses for the certificate program as outlined in this Bulletin.

**Area Requirements:**

|          |                                        |           |
|----------|----------------------------------------|-----------|
| AUTO 134 | Internal Combustion Engine Theory      | 2         |
| AUTO 135 | Internal Combustion Engine Laboratory  | 2         |
| AUTO 145 | Power Train Theory                     | 2         |
| AUTO 146 | Power Train Laboratory                 | 2         |
| AUTO 156 | Fuel and Electrical Systems Theory     | 2         |
| AUTO 157 | Fuel and Electrical Systems Laboratory | 2         |
| AUTO 286 | Engine Rebuilding Laboratory           | 2         |
| ELCT 241 | Fundamentals of Electronics            | 4         |
|          | Electives                              | <u>11</u> |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

29

**AVIATION (Certificate)**

A student taking aviation must complete the following 30 quarter hours and the general studies courses for the certificate program as outlined in this Bulletin.

**Area Requirements:**

|          |                                           |          |
|----------|-------------------------------------------|----------|
| AVIA 141 | Private Pilot Lectures                    | 4        |
| AVIA 142 | Private Pilot Flight Training             | 3        |
| AVIA 143 | Advanced Private Pilot Flight Training    | 3        |
| AVIA 260 | Pre-Instrument Pilot Flight Training      | 4        |
| AVIA 261 | Instrument Pilot Lectures                 | 4        |
| AVIA 262 | Instrument Pilot Flight Training          | 3        |
| AVIA 263 | Advanced Instrument Pilot Flight Training | 3        |
|          | Electives                                 | <u>5</u> |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

29

**OFFSET COPY PREPARATION (Certificate)**

A student taking offset copy preparation must complete the following 29 quarter hours and the general studies courses for the certificate program as outlined in this bulletin.

**Area Requirements:**

|               |                                         |   |
|---------------|-----------------------------------------|---|
| GRPH 221, 222 | Introduction to Graphic and Lithography | 7 |
|---------------|-----------------------------------------|---|

## TECHNOLOGY

|               |                                      |           |
|---------------|--------------------------------------|-----------|
| GRPH 271      | Computer Assisted Publishing         | 2         |
| GRPH 272, 273 | Computer Composition                 | 6         |
| GRPH 295      | Printing Layout and Design           | 3         |
| PHTO 154      | Principles of Photography            | 2         |
| PHTO 155      | Principles of Photography Laboratory | 1         |
|               | Electives                            | 8         |
|               |                                      | <u>29</u> |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

### Cognates:

|          |                    |   |
|----------|--------------------|---|
| CPTR 105 | Personal Computing | 3 |
|----------|--------------------|---|

## PRINTING (Certificate)

A student taking printing must complete the following 29 quarter hours and the general studies for the certificate program as outlined in this Bulletin.

### Area Requirements:

|                    |                                          |           |
|--------------------|------------------------------------------|-----------|
| GRPH 221, 222, 223 | Introduction to Graphics and Lithography | 10        |
| GRPH 271           | Computer Assisted Publishing             | 2         |
| GRPH 273           | Computer Composition                     | 2         |
| GRPH 295           | Printing Layout and Design               | 3         |
| GRPH 331           | Advanced Halftone Photography            | 2         |
|                    | Electives                                | 10        |
|                    |                                          | <u>29</u> |

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

### Cognates:

|          |                    |   |
|----------|--------------------|---|
| CPTR 105 | Personal Computing | 3 |
|----------|--------------------|---|

## MINOR IN AVIATION

A student minoring in aviation must complete 30 quarter hours:

|          |                                        |           |
|----------|----------------------------------------|-----------|
| AVIA 124 | Introduction to Aviation               | 2         |
| AVIA 141 | Private Pilot Lectures                 | 4         |
| AVIA 142 | Private Pilot Flight Training          | 3         |
| AVIA 143 | Advanced Private Pilot Flight Training | 3         |
| TECH 124 | Introduction to Technology             | 1         |
|          | Electives (3 must be upper division)   | 17        |
|          |                                        | <u>30</u> |

Approval of aviation adviser required.

## MINOR IN GRAPHIC ARTS

A student minoring in graphic arts must complete 30 quarter hours:

|                    |                                                                             |           |
|--------------------|-----------------------------------------------------------------------------|-----------|
| GRPH 221, 222, 223 | Introduction to Graphics and Lithography                                    | 9         |
| GRPH 271           | Computer Assisted Publishing                                                | 2         |
| GRPH 331           | Advanced Halftone Photography                                               | 2         |
| TECH 124           | Introduction to Technology                                                  | 1         |
| PHTO 154           | Principles of Photography                                                   | 2         |
| PHTO 155           | Principles of Photography Laboratory                                        | 1         |
|                    | Electives (must have GRPH or PHTO prefix. 1 credit must be upper division.) | 13        |
|                    |                                                                             | <u>30</u> |

Approval of graphics technology adviser required.

**MINOR IN TECHNOLOGY**

A student minoring in industrial technology must complete 30 quarter hours:

|                    |                               |           |
|--------------------|-------------------------------|-----------|
| DRFT 121, 122      | Technical Drafting and Design | 4         |
| TECH 124           | Introduction to Technology    | 1         |
| TECH 125           | Measurements in Technology    | 3         |
| TECH 235, 236, 237 | Materials and Processes       | 6         |
|                    | Electives                     | <u>16</u> |
|                    |                               | 30        |

Approval of technology adviser required.

**AUTOMOTIVE (AUTO)****AUTO 114 PERSONAL CAR CARE**

3

Study of the automobile with emphasis on general maintenance and service procedures. Specifically designed for the student without an automotive background. Does not apply toward an Automotive Technology major. Two lectures and one laboratory per week.

**AUTO 134 INTERNAL COMBUSTION ENGINE THEORY**

2

Study of the internal combustion engine, including theory of operation, analysis of construction, working principles, and components as applicable to gasoline and diesel engines. Two lectures per week.

**AUTO 135 INTERNAL COMBUSTION ENGINE LABORATORY**

1, 2; 2

Laboratory study of engine components through disassembly, inspection, measurement, servicing, and reassembly of engines. Corequisite: AUTO 134.

**AUTO 145 POWER TRAIN THEORY**

2

Study of the automotive power train system with emphasis on proper procedures in diagnosis, servicing, and repair. Two lectures per week.

**AUTO 146 POWER TRAIN LABORATORY**

1, 2; 2

Laboratory study and application of technical information and skills required to diagnose, service, adjust, and perform test procedures on hydraulic brakes, air brakes, clutch assemblies, bearings, transmissions, auxiliary units, transfer cases, drive lines, universal joints, and final drive assemblies. Corequisite: AUTO 145.

**AUTO 156 FUEL AND ELECTRICAL SYSTEMS THEORY**

2

Study of principles of fuel metering and induction/injection for spark-ignited and compression-ignited engines; electrical systems topics include the study of the operating principles, diagnosis, service, adjustment, and test procedures for automotive charging, cranking, and ignition systems. Two lectures per week.

**AUTO 157 FUEL AND ELECTRICAL SYSTEMS LABORATORY**

1, 2; 2

Laboratory study and application of technical information and skills required to diagnose, service, and adjust carburetion and injection fuel systems, automotive charging, cranking, and ignition systems. Corequisite: AUTO 156.

**AUTO 286 ENGINE REBUILDING LABORATORY**

2

Experience in engine rebuilding involving machining operations such as cylinder reconditioning, valve train servicing, lubrication, and cooling system servicing. Two laboratories per week. Prerequisites: AUTO 134; AUTO 135.

**AUTO 314 ENGINE DIAGNOSIS AND TUNE-UP**

2

Study of logical diagnosis and troubleshooting techniques as applied to engine repair and tune-up. Theory and operation of emission control systems. Emphasizes use of electronic instrumentation as a diagnostic tool. Two lectures per week. Prerequisites: AUTO 134; AUTO 135; AUTO 156; AUTO 157. Corequisite: AUTO 315.

## TECHNOLOGY

|                                                                                                                                                                                                                                                                                               |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>AUTO 315 ENGINE DIAGNOSIS AND TUNE-UP LABORATORY</b>                                                                                                                                                                                                                                       | 1, 2; 2        |
| Laboratory study and application of diagnostic principles in trouble shooting repairs and tune-up automotive engines; includes experience with the Sun Road-A-Matic (a computerized dynamometer) and the Sun Model 1115 Performance Analyzer. Corequisite: AUTO 314.                          |                |
| <b>AUTO 345, 346 AUTOMOTIVE SERVICE</b>                                                                                                                                                                                                                                                       | 2, 2           |
| Study of automotive service operation as related to auto air conditioning, the power train, brake systems, suspension and wheel alignment, and general services. Two lectures per week. Prerequisites: AUTO 145; AUTO 146 or equivalent. Corequisites: AUTO 347, 348.                         |                |
| <b>AUTO 347, 348 AUTOMOTIVE SERVICE LABORATORY</b>                                                                                                                                                                                                                                            | 1-2; 2. 1-2; 2 |
| Laboratory study and application of automotive service techniques; includes a broad range of "live" service experiences. Corequisites: AUTO 345, 346.                                                                                                                                         |                |
| <b>AUTO 365 DIESEL ENGINES</b>                                                                                                                                                                                                                                                                | 3              |
| Study of diesel engine theory; includes types of engines, fuel injection systems, air induction systems, exhaust systems, cooling systems, starting, and controls. Two lectures and one laboratory per week. Prerequisites: AUTO 156; AUTO 157. AUTO 286 recommended. Offered odd years only. |                |
| <b>AUTO 366 COMPUTERIZED ENGINE CONTROLS</b>                                                                                                                                                                                                                                                  | 3              |
| Study of microprocessor engine control systems used on late model GM, Ford, Chrysler, and American Motors gasoline engines. Prerequisite: AUTO 315 or permission of instructor.                                                                                                               |                |

## AVIATION (AVIA)

|                                                                                                                                                                                                                                                                                                                                                                                  |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>AVIA 124 INTRODUCTION TO AVIATION</b>                                                                                                                                                                                                                                                                                                                                         | 2      |
| Study of aviation history and the development of the National Air Transportation System. Seventh-day Adventist uses and needs with an introduction to the mission flying program of the church. Offered even years only.                                                                                                                                                         |        |
| <b>AVIA 141 PRIVATE PILOT LECTURES</b>                                                                                                                                                                                                                                                                                                                                           | 4      |
| Study of basic concepts of aircraft performance, navigation, principles of flight, and meteorology; includes interpretation and application of Federal Aviation Regulations, uses of airman's publications and services.                                                                                                                                                         |        |
| <b>AVIA 142 PRIVATE PILOT FLIGHT TRAINING</b>                                                                                                                                                                                                                                                                                                                                    | 1-3; 3 |
| Study of flight and ground procedures to prepare the student through solo flight to pre-cross country flight maneuvers.                                                                                                                                                                                                                                                          |        |
| <b>AVIA 143 ADVANCED PRIVATE PILOT FLIGHT TRAINING</b>                                                                                                                                                                                                                                                                                                                           | 3      |
| Study of and directed solo practice in advanced private pilot maneuvers, night flying, and cross country flight; preparation to meet the requirements of the Private Pilot Flight Test and to qualify for the private certificate. May be repeated for a total of 6 credits. Prerequisite or corequisite AVIA 141, or successfully completed FAA written exam for private pilot. |        |
| <b>AVIA 234 METEOROLOGY</b>                                                                                                                                                                                                                                                                                                                                                      | 2      |
| Study of the atmosphere, winds, moisture, temperature, air masses and fronts, and weather forecasting with emphasis on aviation weather.                                                                                                                                                                                                                                         |        |
| <b>AVIA 256 PRINCIPLES OF AIRCRAFT MAINTENANCE</b>                                                                                                                                                                                                                                                                                                                               | 4      |
| Study of the routine maintenance and inspections that can be performed by the pilot. Offered odd years only.                                                                                                                                                                                                                                                                     |        |
| <b>AVIA 260 PRE-INSTRUMENT PILOT FLIGHT TRAINING</b>                                                                                                                                                                                                                                                                                                                             | 4      |
| Study of advanced piloting techniques in cross-country flying and navigation, advanced aircraft systems, and operations.                                                                                                                                                                                                                                                         |        |
| <b>AVIA 261 INSTRUMENT PILOT LECTURES</b>                                                                                                                                                                                                                                                                                                                                        | 4      |
| Study of aerodynamics, performance, weight and balance, meteorology, and computer usage especially as they apply to instrument flight; detailed study of IFR charts, regulations, and procedures.                                                                                                                                                                                |        |

**AVIA 262 INSTRUMENT PILOT FLIGHT TRAINING** 3  
 Study of the fundamentals of basic instrument flight, navigation, and approach procedures.

**AVIA 263 ADVANCED INSTRUMENT PILOT FLIGHT TRAINING** 3; 6  
 Study of advanced instrument maneuvers, cross-country procedures, and composite instrument operations; prepares the student to meet the requirements of the instrument flight test. May be repeated for a total of 6 credits. Prerequisite or corequisite AVA 261 or successfully completed FAA written exam for Instrument Flight Training.

**AVIA 335 COMMERCIAL PILOT FLIGHT TRAINING** 4  
 Study of procedures in cross-country flying and night operations.

**AVIA 336 ADVANCED COMMERCIAL PILOT FLIGHT TRAINING** 5; 10  
 Training to develop a superior pilot by perfecting coordination, judgment, and flying ability. Prepares student for the commercial flight test. May be repeated for a total of 10 credits. Prerequisite or corequisite AVA 234 or successfully completed FAA written exam for Commercial Pilot.

**AVIA 340 MULTI-ENGINE FLIGHT TRAINING** 3  
 Provides the necessary flight and ground instruction leading to the FAA multi-engine rating. Course offered ONLY when a multi-engine airplane is available.

**AVIA 357 COMMERCIAL AND FLIGHT INSTRUCTOR LECTURES** 3 or 4  
 Advanced navigation, maneuvers, airport and charts. Instructing and application of FAA regulations. Prepares student to pass FAA Commercial and Flight Instructor written examinations.

**AVIA 358 FLIGHT INSTRUCTOR—AIRPLANE FLIGHT TRAINING** 3  
 Study of the standards for acceptable performance for the Federal Aviation Administration Flight Instructor.

**AVIA 361 INSTRUMENT AND FLIGHT INSTRUCTOR LECTURES** 4-5  
 Study of aerodynamics, performance, weight and balance navigational instrumentation, IFR charts, regulation and procedures with the fundamentals of instruction. Prepares student to pass FAA Instrument and Instrument Instructor written examination.

**AVIA 458 FLIGHT INSTRUCTORS—INSTRUMENT FLIGHT TRAINING** 3  
 Study of the standards for acceptable performance for the FAA Flight Instructor Certificate (instrument rating).

**AVIA 465 TRANSPORT PILOT FLIGHT TRAINING** 6  
 Provides the necessary flight and ground instruction in a multi-engine of the FAA Airline Transport Pilot Practical Test. Flight instruction includes instrument flying, with concentrated practice on approaches, emergency procedures and cross-country flight. Course offered ONLY when a multi-engine airplane is available.

### DRAFTING (DRFT)

**DRFT 121, 122 TECHNICAL DRAFTING AND DESIGN** 2, 2  
 Introduction to technical drafting and design: includes board and computer (CADD) drafting with emphasis on drafting fundamentals, visualization, principles and elements of design and analysis. Specific design applications to each technological area. One lecture and 6 laboratory hours per week.

### ELECTRONICS (ELCT)

**ELCT 241 FUNDAMENTALS OF ELECTRONICS** 4  
 Study of fundamentals of electronics technology, including Ohms Law, series and parallel DC circuits, resistive capacitive and inductive AC circuits, motors and generators, and an introduction to semiconductors. Laboratory work will emphasize the use of basic electronic test equipment. Three lectures and one laboratory per week.

## TECHNOLOGY

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>ELCT 242 ELECTRONIC CIRCUIT ANALYSIS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 5    |
| Study of complex AC and DC circuits, including RC and RL time constants, reactance, impedance, thevenins, and Norton's theorems, with an introduction to resonant and filter circuits. Four lectures and one laboratory per week. Prerequisite: ELCT 241.                                                                                                                                                                                                                                                                |      |
| <b>ELCT 252 SOLID STATE DEVICES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 4    |
| Introduction to solid-state devices, analytical and graphical analysis of diode characteristics and diode circuit applications; includes three-terminal solid-state devices, concept of amplification, switching, biasing, and graphical analysis; analysis of AC small and large signal conditions, bias stability, use of load lines in amplifier analysis and design; introduction to integrated circuits. Three lectures and one laboratory per week. Prerequisite: ELCT 241. Prerequisite or corequisite: ELCT 242. |      |
| <b>ELCT 253 ELECTRONIC AMPLIFIER CIRCUITS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5    |
| Application and analysis of discrete bipolar junction and field effect transistor amplifiers including biasing systems, DC load line analysis class of operation, AF and RF amplifier, and amplifier frequency response. Application and analysis of operational amplifiers, differential amplifiers, comparators, integrators and differentiators. Four lectures and one laboratory per week. Prerequisite: ELCT 252.                                                                                                   |      |
| <b>ELCT 297, 298 ELECTRONICS FABRICATION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1, 1 |
| Individualized study in the techniques of electronics fabrication, including chassis construction, printed circuit board construction, and electronic packaging. One laboratory per week. May enroll in ELCT 297 and ELCT 298 concurrently. Prerequisite: ELCT 241.                                                                                                                                                                                                                                                      |      |
| <b>ELCT 326 HOSPITAL SAFETY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2    |
| Study of codes and regulations pertaining to hospital safety; equipment and techniques involved in leakage current test, conductivity testing in operating rooms, testing of pressure safety devices, radiation safety devices, radiation safety checks, and the correct handling of explosive gases. Prerequisites: ELCT 253; ELCT 332.                                                                                                                                                                                 |      |
| <b>ELCT 331, 332 MEDICAL ELECTRONICS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 5, 5 |
| Study of the use, calibration, and maintenance of electromechanical equipment used in the diagnostic and therapeutic phases of medicine and the clinical laboratory; includes patient care and monitoring equipment, cardiovascular measurements, measurements of physical variables, biotelemetry, and computer applications in medicine. Four lectures and one laboratory per week. Prerequisites: ELCT 253; BIOL 202.                                                                                                 |      |
| <b>ELCT 335 COMPUTER APPLICATIONS IN TECHNOLOGY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3    |
| A study of the applications of computers and microprocessor board controllers in industrial production and process control.                                                                                                                                                                                                                                                                                                                                                                                              |      |
| <b>ELCT 362 DIGITAL INTEGRATED CIRCUITS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 5    |
| Study of basic principles and applications of digital I.C.'s; includes characteristics of logic families and application of I.C. gates, clocks, counters, registers, displays, and memories. Laboratory emphasizes application of I.C. devices commonly used in industry. Four lectures and one laboratory per week. Prerequisite: ELCT 253.                                                                                                                                                                             |      |
| <b>ELCT 363 RADIO COMMUNICATIONS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4    |
| The study of AM and FM transmitting and receiving systems including sideband transmission, transmission lines, antenna systems, fiber optics and lasers. Three lectures and one laboratory per week. Prerequisite: ELCT 263. Offered even years only.                                                                                                                                                                                                                                                                    |      |
| <b>ELCT 372 COMPUTER CIRCUITS AND SYSTEMS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 4    |
| Study of theory and application of digital and analog systems; includes computer circuitry, interface devices, and physical systems control. Laboratory emphasizes construction and troubleshooting techniques. Three lectures and one laboratory per week. Prerequisite: ELCT 362.                                                                                                                                                                                                                                      |      |
| <b>ELCT 381, 382 TELEVISION SYSTEMS AND CIRCUITS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4, 4 |
| Study of television transmission principles, the theory and operation of monochrome and color television receiver circuits, community antenna television systems, and closed-circuit television systems; emphasizes the use of logical systems and circuit analysis techniques in troubleshooting. Must be taken in sequence. Three lectures and one laboratory per week. Prerequisite: ELCT 253.                                                                                                                        |      |

**ELCT 393 COMPUTER TROUBLESHOOTING** 4  
 Study of computer troubleshooting techniques and tools including probes and current tracers, logic analyzers, signature analyzers, and in-circuit emulators. Three lectures and one laboratory per week. Prerequisite: ELCT 372. Offered odd years only.

**ELCT 421 MICROPROCESSOR INTERFACING** 4  
 Study of techniques and devices used to interface microprocessors to memory and input output devices. Includes serial and parallel interfaces and A to D and D to A conversion. Three lectures and one laboratory per week. Prerequisite: ELCT 372. Offered even years only.

**ELCT 472 APPLICATION OF ROBOTICS** 4  
 Introduction to the application of robotics; includes industrial applications, robot anatomy, arm geometry, end-of-arm tooling, drive mechanisms, feedback systems, electronic sensors, and microprocessors for control and sensing. Two lectures and one laboratory per week. Prerequisite: ELCT 371. Offered odd years only.

**ELCT 490 DIRECTED HOSPITAL EXPERIENCE** 4-16  
 Full-time work experience with supplementary training in the biomedical electronics department of an approved hospital; taken only after completion of all course work required for the biomedical electronics program. Application must be made during the first two weeks of the quarter prior to the actual field experience.

## GRAPHICS (GRPH)

**GRPH 126 BOOKBINDING** 2  
 Introduction to the art and craft of bookbinding; provides a comprehensive knowledge of the steps in the process of binding new and old books and allied crafts. One lecture and one laboratory per week.

**GRPH 221, 222, 223 INTRODUCTION TO GRAPHICS AND LITHOGRAPHY** 3-4, 3, 3  
 Introduction to the principal methods of printing. Copy preparation, offset photography, image assembly, plate making and press work. Two lectures and one or two laboratories per week.

**GRPH 264 SCREEN PRINTING** 2  
 Introduction to screen printing, including various methods of stencil preparation, types of materials used and preparation of equipment. One lecture and one laboratory per week.

**GRPH 271 COMPUTER ASSISTED PUBLISHING** 2  
 Study of the processes and techniques associated with Computer Assisted Publishing (CAP) including optical scanner use, text manipulation, Graphics Generation, electronic layout, and laser printing. One lecture and one or two laboratories per week. The student must have a minimum proficiency in keyboarding skills.

**GRPH 272, 273 COMPUTER COMPOSITION** 2, 2/3, 3  
 Study of the operation of computerized photo-typesetting machines. One lecture and one laboratory per week. One lecture and two laboratories per week intended primarily for certificate programs. Prerequisite or corequisite: GRPH 121 or equivalent. Students must be able to demonstrate a typing proficiency of at least 40 words per minute.

**GRPH 295 PRINTING LAYOUT AND DESIGN** 3  
 Study of the basic principles of design as applied to composition, layout, and arrangement in printing. Lectures, demonstrations, and assigned individual and group projects. Prerequisite: GRPH 121.

**GRPH 326 PRINTING ESTIMATING** 3  
 Study of supplies, inventory control, pricing, and estimating as applied to a commercial printing plant. Both manual and computer-based methods are used. Prerequisite: GRPH 271. Offered odd years only.

## TECHNOLOGY

### GRPH 331 ADVANCED HALFTONE PHOTOGRAPHY

2

Study of special techniques of making quality halftones; emphasizes such variables as picture type and quality, and printing paper; includes techniques of posterization and the making of duotones. One lecture and one laboratory per week. Prerequisite: GRPH 223.

### GRPH 421 COLOR SEPARATIONS

3

Advanced study in lithographic printing with emphasis on fake color and process color separations and color press work. Two lectures and one laboratory per week. Prerequisite: GRPH 223 or equivalent. Offered even years only.

## PHOTOGRAPHY (PHTO)

### PHTO 154 PRINCIPLES OF PHOTOGRAPHY

2

Study of the basic principles of color and black-and-white photography; includes theory and practice of exposure, development, contact printing and enlarging, and study of various types of equipment.

### PHTO 155 PRINCIPLES OF PHOTOGRAPHY LABORATORY

1

Laboratory experience with photo composition, camera operation, printing, enlarging, and processing of monochromatic mediums. Limited enrollment. 35mm. camera required. Pre-requisite or corequisite: PHTO 154.

### PHTO 355 ADVANCED PHOTOGRAPHY

3

Study of advanced techniques in photography; includes lighting, photo-chemistry, optics, photo accessories, printing, enlarging, and processing of chromatic and monochromatic mediums, in-camera manipulations, darkroom manipulation, finishing presentation techniques. Two lectures and one laboratory per week. Prerequisites: PHTO 154; PHTO 155.

### PHTO 358 PHOTO ASSIGNMENTS

1

Individualized assignments to provide a variety of experience in commercial and publication photography, embodying shooting, processing, and finishing black and white prints. One laboratory per week. Prerequisite: PHTO 355 or equivalent.

## TECHNOLOGY (TECH)

### TECH 124 INTRODUCTION TO TECHNOLOGY

1

A study of current technology as it relates to society and the individual. Includes the study of technology in the broad areas of communication, transportation, construction, and manufacturing.

### TECH 125 MEASUREMENTS IN TECHNOLOGY

3

Applications of measurement principles and problem solving techniques encountered in technology. Problems selected will relate to the student's technical concentration.

### TECH 231, 232, 233 TECHNICAL APPLICATIONS

1-3; 1-3; 1-3

Application of Processes and Materials used in the technical fields. Exploration of concepts, design and practices in technology. May be taken out of sequence with instructor's permission.

### TECH 235, 236, 237 MATERIALS AND PROCESSES

2, 2, 2

Study of various methods for processing metallic, polymeric and ceramic materials. Major families of processes and materials are explored as they relate to a broad understanding of modern technology. These may be taken in any sequence.

### TECH 280 PRACTICUM

1-6; 6

Laboratory work in a technology area or laboratory supervision experience chosen in counsel with the supervising laboratory instructor. Six credits maximum. One 3-hour laboratory per week per credit.

**TECH 325 POWER AND ENERGY**

3

A study of the various forms of power, its generation, application, and implications for technology. Compares available resources and conservation of energy.

**TECH 328 APPLIED MAINTENANCE**

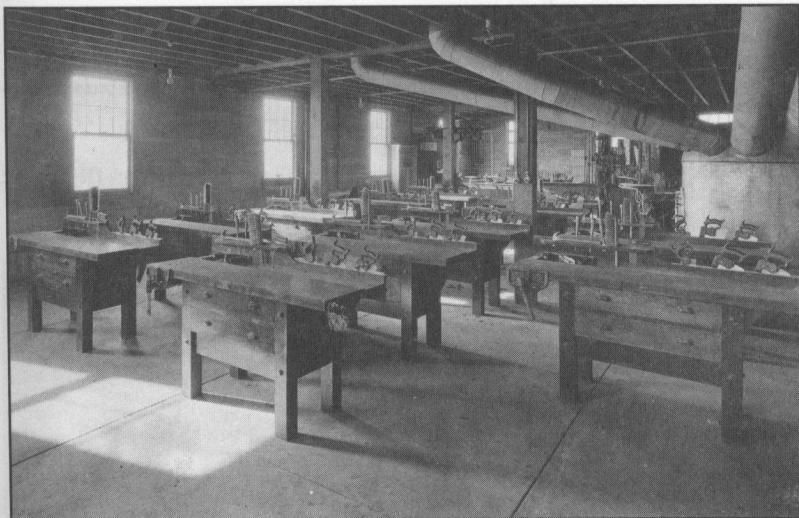
1, 2; 6

Practical, on-the-job experience for students of plant maintenance technology in the following areas: power plant, painting, carpentry, cabinetmaking, plumbing, electrical, refrigeration, air conditioning, locksmithing, door hardware, heavy equipment, and motor pool. Selected in consultation with adviser. One laboratory per week per quarter. One or two hours per quarter; maximum, six.

**TECH 356, 357 MANAGEMENT IN TECHNOLOGY**

2, 2

Theory and practice of modern production/operations management. Includes facility design, personnel management and financial systems. Application of modern analytical techniques to the solution of practical problems in technology.



*The woodworking shop began operation December 1918*

**TECH 364 OCCUPATIONAL HEALTH AND SAFETY**

2

Introduction to federal, state, and local safety codes applying to materials, material handling, and equipment commonly encountered by the technologist. Includes a study of codes from Occupational Safety and Health Act (OSHA), Washington Industrial Safety and Health Act (WISHA), National Fire Protection Association (NFPA), and Department of Transportation (DOT). Emphasis on the handling of hazardous wastes and the impact on ones health and the environment.

**TECH 398 MACHINE AND TOOL MAINTENANCE**

1, 2; 2

Methods of care and maintenance of tools, machines, and supplementary equipment. Selection may be made in any field offered. Prerequisite: adequate background in chosen fields. One laboratory per credit per week. One or two hours any quarter; maximum, two.

**TECH 428 TEACHING TECHNOLOGY TO CHILDREN**

3

Study of technology, as applied to the elementary grades, covering the broad areas of manufacturing, transportation, construction, and communication. Emphasis on methods of application, materials and processes.

## TECHNOLOGY

|                                                                                                                                                                                                                                                                                                                                                                                                   |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>TECH 480 ADVANCED PRACTICUM</b>                                                                                                                                                                                                                                                                                                                                                                | 1-6; 6 |
| Laboratory work in a technology area or laboratory supervision experience chosen in consultation with the supervising laboratory instructor. Six credits maximum. One 3-hour laboratory per week per credit. Prerequisite: Lower division work in chosen area.                                                                                                                                    |        |
| <b>TECH 494 COOPERATIVE EDUCATION</b>                                                                                                                                                                                                                                                                                                                                                             | 1-12   |
| Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department; CDEV 210 or permission of Cooperative Education Director.                                                                                           |        |
| <b>TECH 497 SENIOR SEMINAR</b>                                                                                                                                                                                                                                                                                                                                                                    | 1      |
| Presentation and discussion of current topics of interest within technology. Prerequisite: Senior standing in technology.                                                                                                                                                                                                                                                                         |        |
| <b>TECH 498 SENIOR PROBLEM PHASE I</b>                                                                                                                                                                                                                                                                                                                                                            | 1      |
| A departmental comprehensive experience consisting of a written and performance examination, or an appropriate experiment requiring research and a technical report, or a special project. The type of experience is selected by the student in consultation with the adviser and approved by the department chair. The basic research, plan and procedures to be presented to adviser and chair. |        |
| <b>TECH 499 SENIOR PROBLEM PHASE II</b>                                                                                                                                                                                                                                                                                                                                                           | 1      |
| Completion of Phase I with presentation of completed work to the Technology Department faculty.                                                                                                                                                                                                                                                                                                   |        |



Walla Walla College ball team 1919

# Financial Information

We desire that the financial arrangements and transactions be made as considerate as possible for both students and parents. Several financial assistance plans are available which can make it possible for almost anyone who so desires to attend Walla Walla College.

## PLANNING YOUR FINANCES:

In order to receive the maximum financial assistance available, students should plan their finances for the entire academic school year prior to fall quarter registration.

## How To Get Help:

**STUDENT FINANCIAL COUNSELORS** provide help in financial planning and in applying for financial aid. They are responsible for approving all financial arrangements and are available to discuss problems if students/parents are unable to meet the requirements on the payment plan they have chosen.

**THE STUDENT EMPLOYMENT COORDINATOR** helps students find work on campus. The coordinator does not hire or assign students to a particular job, but does work with students individually to secure employment. For more information on student employment, please see employment section of this Bulletin.

**TELEPHONE:** Direct: 1-509-527-2815  
Toll Free 1-800-541-8900  
Fax 1-509-527-2253

## Estimated Minimum Student Budgets

### DORMITORY STUDENT

|                                | Per Year                 | Per Quarter             |
|--------------------------------|--------------------------|-------------------------|
| Tuition (full-time, 16 hours)  | \$8,883*                 | \$2,961*                |
| Student Association Fee        | 96                       | 32                      |
| Health Service Fee             | 60                       | 20                      |
| Accident Insurance (required)† | 50                       | 17                      |
| Room Rent                      | 1,575                    | 525                     |
| Cafeteria Minimum              | 765                      | 255                     |
| <b>TOTAL</b>                   | <b><u>\$11,429**</u></b> | <b><u>\$3,810**</u></b> |

\*See page 244 for graduate tuition.

\*\*Students will have additional expenses for books, transportation, cafeteria, and personal needs.

†Estimate.

**NON-DORMITORY STUDENT**  
(Does not include living expenses)

|                                | Per Year         | Per Quarter      |
|--------------------------------|------------------|------------------|
| Tuition (full-time, 16 hours)  | \$8,883*         | \$2,961*         |
| Student Association Fee        | 96               | 32               |
| Health Service Fee             | 60               | 20               |
| Accident Insurance (required)† | 50               | 17               |
| <b>TOTAL</b>                   | <b>\$9,089**</b> | <b>\$3,030**</b> |

\*See page 244 for graduate tuition.

\*\*Students will have additional expenses for books, cafeteria, transportation, and personal needs.

†Estimate.

## Payment Plans

Since our policy is to meet promptly our operating expenses, the College is unable to finance or carry student accounts. The following payment plans are offered to meet each student's need:

**THE ADVANCE PAYMENT PLAN:** Estimated expenses for the school year are paid in advance. A tuition discount is given based on the amount of advance payment and the date payment is received by Walla Walla College.

| Purpose           | Amount   | Received by<br>June 28, 1991 | Received by<br>Aug. 15, 1991 | Received by<br>Sept. 24, 1991 |
|-------------------|----------|------------------------------|------------------------------|-------------------------------|
| 1 Dorm            | \$13,000 | 6%                           | 5%                           | 4%                            |
| 2 Dorm            | 11,500   | 5%                           | 4%                           | 3%                            |
| 3 Village         | 10,000   | 5%                           | 4%                           | 3%                            |
| 4 Tuition<br>only | 8,883    | 4%                           | 3%                           | 2%                            |

- The discount will be applied to accounts May 29, 1992.
- The student must be registered for at least 12 hours autumn, winter, and spring quarters.
- Financial aid and work earnings are not considered toward the cash payment.
- Advance payments are not used to finance flight training beyond the regular tuition-aviation credit plan.

- The discount is computed on tuition charges only.

<sup>1</sup> Covers most costs for dorm students.

<sup>2</sup> Covers most costs for dorm students, but allows for a work program to pay some costs.

<sup>3</sup> Dormitory students are not eligible for this payment level.

<sup>4</sup> \$2,961 will be applied to the account each quarter. Dormitory students need to pay an additional \$840 plus any previous balance at the beginning of each quarter. This pays for student association fees, required insurance, room, and minimum cafeteria charges. Balance of the account must be paid as billed.

**THE REGULAR PAYMENT PLAN:** Before registering, dormitory students pay for tuition, student association fees, health service fee, required insurance, room, and minimum cafeteria charges (\$3,810) plus previous balance; non-dorm students pay for tuition, student association fees, and required insurance (\$3,030) plus previous balance. Students and/or parents will be billed for other charges as they occur. Awarded financial aid may be deducted from these amounts.

**MONTHLY PAYMENT PLAN:** Twelve monthly payments BEGINNING JUNE 28, 1991. The size of payment depends on housing, meals and work program. To use the chart, first estimate your work program. Then under the Dorm or Non-Dorm sections, estimate your quarterly cafeteria charges. Example: a student planning to work 10 hours a week, live in the dorm and eat about \$400 per quarter would use \$1,060 for their monthly payment.

| <b>Dorm</b>                                  |           |           |           |
|----------------------------------------------|-----------|-----------|-----------|
| <b>Estimated Quarterly Cafeteria Charges</b> |           |           |           |
| On-Campus                                    | Below     | Average   | Above     |
| Work Estimate<br>(Hours per week)            | \$255-350 | \$350-475 | \$475-600 |
| No On-Campus Work                            | \$1,130   | \$1,160   | \$1,190   |
| 1-4 hrs. week                                | 1,105     | 1,135     | 1,165     |
| 5-8 hrs. week                                | 1,065     | 1,100     | 1,130     |
| 9-12 hrs. week                               | 1,030     | 1,060     | 1,090     |
| 13-16 hrs. week                              | 990       | 1,025     | 1,055     |

| <b>Non-Dorm</b>                              |  |  |  |
|----------------------------------------------|--|--|--|
| <b>Estimated Quarterly Cafeteria Charges</b> |  |  |  |

| On-Campus                         | No Meals | Some Meals | Most Meals |
|-----------------------------------|----------|------------|------------|
| Work Estimate<br>(Hours per week) | \$0-125  | \$125-250  | \$250-375  |
| No On-Campus Work                 | \$940    | \$975      | \$1,005    |
| 1-4 hrs. week                     | 915      | 950        | 980        |
| 5-8 hrs. week                     | 880      | 910        | 940        |
| 9-12 hrs. week                    | 840      | 875        | 905        |
| 13-16 hrs. week                   | 805      | 835        | 865        |

**SHORT TERM LOAN PAYMENT PLAN:** A financial counselor works with students and parents on an individual basis. A reasonable budget is worked out and put in writing. A balance to finance is estimated and a repayment plan is agreed upon. The student borrows the balance to finance from a local bank or credit union through the school, with the school acting as the cosigner for the loan. Repayment is made directly to the lending institution.

**INSURED TUITION PAYMENT PLANS:** With these programs, one to four years' educational expenses are divided into equal monthly payments. Extended repayment plans may be available. A list of companies offering these plans may be obtained from the Walla Walla College Student Financial Services Office.

## EXPENSES

### Tuition (Undergraduate Students)

|                     |                           |
|---------------------|---------------------------|
| 1-12 quarter hours  | \$ 236 (per quarter hour) |
| 13-16 quarter hours | 2,961 (per quarter)       |
| above 16            | 205 (per quarter hour)    |

### Tuition (Graduate Students)

\$236 per quarter hour

**FAMILY TUITION DISCOUNT.** A ten percent discount will be allowed on tuition for each student when three or more unmarried students from one family are enrolled for 12 or more hours during the same quarter. A five percent discount

will be allowed on tuition for each unmarried student when two students from one family meet the above criteria.

Discounts will be forfeited if student status is terminated before the end of the quarter for which the discount was given.

**SENIOR CITIZEN DISCOUNT.** Persons sixty years or older taking classes for credit will be charged one-half the regular tuition rate. Those wishing to audit classes will be charged one-fourth the regular tuition rate. Those wanting only to sit in on classes under the "Senior Citizen Class Visitor Program" pay \$100 for the quarter.

### **Student Association Fee**

A \$32 per quarter Student Association fee is charged to all undergraduate students registered for six or more quarter hours. It provides for student publications and membership in the Student Association. This fee is subject to change only by vote of the Student Association. Students who are charged dues for less than three quarters will need to pay an additional fee if they wish to receive the yearbook and/or video. Graduate students and others who are exempt from paying Student Association fees, may purchase publications for an amount set by the ASWWC Editors.

### **Health Service Fee**

A \$20 per quarter Health Service fee is charged to all students registered for six or more quarter hours. It provides for all health services on campus with a doctor or nurse practitioner. Commuter students accepted in a graduate degree program are exempt from this fee.

### **Residence Halls**

For dual occupancy, the room rental charge for each student per quarter is:

|                               |       |
|-------------------------------|-------|
| Conard Hall                   | \$505 |
| Foreman Hall                  | 525   |
| Sittner Hall                  | 505   |
| Sittner East                  | 505   |
| Hansen Hall (Portland Campus) | 525   |

When rooms are available, single occupancy is permitted at an extra cost of \$100 per quarter.

### **Married Student Housing**

Married student housing is available on a first-come-first-served basis. Financial arrangements must be approved by the Student Financial Services Office before a family may move into college housing.

#### Hallmark Apartment

|              |                                  |
|--------------|----------------------------------|
| One bedroom  | \$170 per month plus electricity |
| Two bedrooms | \$210 per month plus electricity |

Additional housing may be available to meet a family's needs. Rent is subject to change.

### **Housing Reservations and Deposit**

The College residence halls and other student housing require a \$100 per person room deposit. The entire deposit will be credited in full at the end of the student's

stay unless there are charges for delayed departure, unclean rooms, room damage, or unreturned keys.

Dorm reservations are made directly with the residence hall. Married students should contact College Rental Properties at 509-527-2109.

## Cafeteria

Vegetarian meals are provided by the ARA Food Service, which is operated on the cafeteria plan. Dorm students are expected to take their meals in the main cafeteria or the snack bar. All dorm students will be charged a quarterly minimum of \$255, which may be used in either serving area. A 20% discount will be applied to all food charges above \$325 per quarter. A typical dorm student spends about \$350 to \$450 per quarter in the cafeteria. Non-dorm students will be charged by the item and may pay cash or charge their meals to their student account.

## Books and School Supplies

Textbooks, school supplies, and other class materials are available at the College Store. Students should plan on approximately \$180-200 for such purchases each quarter.

## Aviation

A student who registers for a flight training class will receive scholarship money in an aviation account equal to the total tuition charged divided by the number of credit hours taken times the number of flight training hours registered for. Scholarship money will be available for the student's use during the time registered as a student at WWC and for 12 calendar months after enrollment ceases. After that time, any scholarship funds remaining unused will revert to the general fund. Once the scholarship money is used, funds must be deposited to the aviation account to cover all charges before incurred.

## Aviation Fees

### Plane Rental Fees:

|                              |              |
|------------------------------|--------------|
| *Cessna 150                  | \$34 an hour |
| *Cessna 152 (non-instrument) | \$35 an hour |
| *Cessna 152 (instrument)     | \$36 an hour |
| *Warrior                     | \$48 an hour |
| *ATC 610 Simulator           | \$12 an hour |

### Instruction (Dual and Ground)

|                                     |              |
|-------------------------------------|--------------|
| *Primary                            | \$18 an hour |
| *Advanced                           | \$20 an hour |
| Student Pilot Insurance per quarter |              |

\*All fees are subject to change due to fluctuation of operating costs.

## Music Fees

Music lessons may be taken for credit or no credit. When lessons are taken for credit, the lesson fee is \$117 per quarter, plus tuition, for nine half-hour lessons, or \$234 per quarter, plus tuition, for nine one-hour lessons. When lessons are not taken for credit, the lesson fee is \$153.00 per quarter for nine half-hour lessons, or \$306 for nine one-hour lessons. Music majors and minors who are currently en-

rolled for, or have taken MUCT 121-123 and are registered for a full load (12 hours or more), are eligible for a music fee scholarship equal to the lesson fee charged. Only those lessons which are needed to complete requirements for a music major or minor are included in the scholarship program. The scholarships do not apply to lessons taken off campus.

Credit is given for lessons on the following basis: a minimum of nine 30-minute lessons per quarter and daily practice amounting to five clock hours a week will yield one hour of credit. It is the student's responsibility to meet the appointed time for lessons. The teacher is obligated to provide opportunity for makeup lessons only in cases of illness or emergency.

Excused absences may be made up at the discretion of the teacher if previous arrangements have been made. Lessons falling on holidays or vacations are not made up unless this results in the student receiving fewer than nine lessons.

**Music fee refunds** are calculated on the basis of the number of lessons taken through the fourth week of the quarter, after which no refunds are granted. Students taking lessons for credit must submit a Change of Registration form to the Academic Records Office at the time lessons are discontinued. Drops for non-credit lessons must be registered at the music office.

### Other Music Fees:

|                                                                                          |       |
|------------------------------------------------------------------------------------------|-------|
| Organ                                                                                    | \$ 30 |
| (per quarter for students desiring practice only)                                        |       |
| Band or Orchestral instruments                                                           | 25    |
| (per quarter for students desiring lessons and not possessing<br>their own instruments.) |       |

### Laboratory Fees (per quarter)

|                   |       |
|-------------------|-------|
| ACCT 335          | \$ 10 |
| ACCT 423, 424     | 25    |
| ART 264, 265, 266 | 15    |
| ART 284, 285, 286 | 20    |
| ART 294, 295, 296 | 20    |
| ART 317, 318, 319 | 20    |
| ART 364, 365, 366 | 15    |
| ART 374, 375, 376 | 20    |
| HLSC 353          | 15    |

### Physical Education Fees

|                                                   |       |
|---------------------------------------------------|-------|
| Backpacking                                       | \$ 25 |
| Cycling                                           | 45    |
| *Golf I                                           | 45    |
| † Golf II                                         | 70    |
| † Golf, Pro-Act                                   | 70    |
| *Ice Skating                                      | 15    |
| Prevention of Injury                              | 30    |
| Rock Climbing                                     | 45    |
| † Sailboarding                                    | 130   |
| †*Scuba I (includes field trip for certification) | 240   |

|                         |     |
|-------------------------|-----|
| †*Scuba II              | 190 |
| *Ski Instructor         | 40  |
| *Skiing (Bluewood)      | 30  |
| *Skiing (Cross Country) | 30  |
| †*Skiing (Mount Hood)   | 75  |

\*Nonrefundable

†Student must receive a permit from the Student Financial Services Office before registering for this class.

## Special Fees

|                                                                                |                          |
|--------------------------------------------------------------------------------|--------------------------|
| Application (nonrefundable)                                                    | \$20.00                  |
| *Audit Class                                                                   | one-half regular tuition |
| Change in Registration (Drop/Add)                                              | 3.00                     |
| ID Card Replacement                                                            | 7.50                     |
| Late Registration                                                              | 50.00                    |
| Nursing, per clinical laboratory credit hr.                                    | 15.00                    |
| Out-of-Schedule Examination (per exam)                                         | 50.00                    |
| Returned Check                                                                 | 10.00                    |
| Field trips - teachers will notify students of special fees to cover expenses. |                          |
| Transcript, first copy (requests must be in writing)                           | free                     |
| Transcript, additional copies each                                             | 3.00                     |
| Transcript, same day service, each copy                                        | 5.00                     |

\*Students with a cumulative grade-point average of at least 3.00 and a course load of 13-16 hours pay \$10 for each audited course in excess of 16 hours.

## Examination Fees:

|                                 |                  |
|---------------------------------|------------------|
| Challenge Exam                  | 40.00/Credit hr. |
| Recording Fee                   | 20.00            |
| Examination Fee                 | 45.00            |
| National League of Nursing Exam |                  |
| Validation Exam                 | 3.00/Credit hr.  |
| Recording Fee                   | 20.00            |
| Examination Fee                 | 15.00            |
| Waiver Exam                     |                  |

## Student Insurance

Walla Walla College provides injury and accident insurance on a mandatory basis at an estimated cost to the student of \$15 per quarter. In addition, WWC offers major medical insurance at an additional estimated cost of \$200 per quarter.

The accident insurance is not refundable if a student drops after the fourth day of classes. No changes or refunds are allowed on the major medical insurance after the first two weeks in the quarter.

Insurance claims are made through the Student Health Center.

## Graduate Students:

For additional financial information on the Graduate Program see the Graduate Bulletin.

## REFUNDS

If a student withdraws during the quarter, refunds will be made 30 days after withdrawing. Students who leave school without completing withdrawal procedures will be charged until proper arrangements are made.

A student withdrawing from classes during the quarter will receive the following refunds:

## Tuition

100% through the fourth day of classes after regularly scheduled registration on the College Place campus.\*

75% second week

50% third and fourth weeks

**A tuition refund may affect awarded financial aid.**

\*Students dropping all classes during this period will be charged a processing fee of \$50 or 5% of tuition, whichever is less.



*Dressed for the occasion*

## **Student Association Fee**

This fee is not refundable after the fourth day of classes.

## **Dormitory Room Rent:**

- 90% during first week of quarter
- 80% during second week of quarter
- 70% during third week of quarter
- 60% during fourth week of quarter
- 50% during fifth week of quarter
- 40% during sixth week of quarter
- 30% during seventh week of quarter
- 20% during eighth week of quarter

The beginning of the quarter will be considered to be the first day of class instruction.

## **Financial Aid**

When a student withdraws from school while a tuition refund is in effect, a portion of aid will be refunded to the original source.

1. The amount to be refunded to the Title IV Aid Programs will be the lesser of:
  - A. Title IV aid awarded multiplied by the amount of refund divided by the total aid awarded.
  - B. Title IV aid less earned College Work Study.
2. The amount to be refunded to the WWC aid programs will be:  
Total Aid Refund less Title IV refund

A detailed copy of the Financial Aid Refund Policy can be obtained by contacting Student Financial Services.

## **STATEMENTS**

Itemized statements will be issued each month giving an account for the previous month. Tuition, required fees, room rent, and minimum cafeteria charges for the quarter will be charged at the beginning of each quarter. Non-dorm students may obtain their statements from the cashier in the Accounting Office.

It is expected that statements will be paid within ten days from the time of mailing. The College operates on a cash basis and is dependent upon prompt payment of accounts.

Checks, drafts, and money orders should be made payable to Walla Walla College and should be sent to:

Accounting Office  
Walla Walla College  
204 S College Ave  
College Place, WA 99324-1198

## **PAST DUE ACCOUNTS**

A FINANCE CHARGE computed at a periodic rate of one percent per month is assessed against a past due account. This is an ANNUAL PERCENTAGE RATE of twelve percent.

## **RELEASE OF TRANSCRIPTS OR DEGREES**

By action of the Board of Trustees of the College, a diploma or transcript (official or unofficial) may not be released until the following criteria are met:

- a) The student's account is paid in full.
- b) Walla Walla College has been released as cosigner on student's short-term loan.
- c) The student's Perkins (NDSL), Nursing, and Institutional loans are current.

To expedite the release of transcripts, diplomas and other legal documents, a money order or certified check should be sent to cover the balance of the student's account. Requests for transcripts must be in writing.

## **PERSONAL PROPERTY LOSS**

Walla Walla College is not responsible for loss of personal property. Students are encouraged to carry their own insurance for personal belongings since the insurance the College carries does not cover these items.

## **INTERNATIONAL STUDENTS**

International students who are not citizens or permanent residents of the United States are asked to place a \$1,500 (U.S.) deposit with the College (Canadian students are exempt) before final acceptance can be given and the I-20 form, necessary to secure the U.S. student visa, can be sent.

International students on student visas do not qualify for the majority of loans and grants described in this bulletin. International students may accept employment on campus only; however, spouses and children who are not students may not accept employment under any circumstances. To determine ability to meet educational costs, the College requires applicants to submit a declaration of finances before final acceptance is given.

## **CHANGE IN EXPENSES**

Because of possible fluctuation in the economy, the College Board of Trustees reserves the right to adjust costs and policies throughout the school year or to supersede statements published in the bulletin.

# Financial Aid

Walla Walla College assumes that a student and his/her parents have the primary obligation of paying for the student's education. Parents are expected to provide, as they are able, the basic essentials of life, whether the student lives in the community or on campus.

For families unable to meet the full costs of attending Walla Walla College, financial aid is available in the form of student employment, long-term loans, grants, and scholarships. Grants and scholarships are gift aid and do not have to be repaid. Interest rates for long-term loans are extremely low, and repayment does not begin until after a student leaves college.

## WHAT IS A FINANCIAL AID PACKAGE?

When a student's costs of attendance exceed the expected family and student contribution, the student may receive a financial aid award. This award may be a package of aid made up of grants, scholarships, loans, and employment. After students have been awarded the grants, scholarships, and discounts to which they are entitled, the college will award additional aid based on need, according to the following priority:

1. Part-time employment for the academic year: \$1,800.
2. Loans
3. Other grants and scholarships.

**SUMMER SAVINGS.** Each aid recipient is expected to have at least \$1,400. Applicants who are able to secure better jobs will be expected to have increased summer savings.

**PRIORITY FOR FINANCIAL AID WILL BE GIVEN TO APPLICANTS WHO HAVE APPLIED BY APRIL 1 PRIOR TO THE ACADEMIC SCHOOL YEAR THEY ARE PLANNING TO ATTEND.**

## WHAT ARE THE STUDENT'S RESPONSIBILITIES?

Applicants must keep the Student Financial Services Office informed of any changes in their financial circumstances or any other changes in the information originally submitted on the Walla Walla College Financial Aid application.

The applicant must respond to the award notice by the date indicated on the notice. By accepting the award, the student accepts the conditions of the award which include:

1. Maintaining the minimum employment expectation.
2. Maintaining satisfactory academic progress on a quarterly and annual review. A detailed copy of the Financial Aid Academic Progress Policy can be obtained by contacting Student Financial Services.
3. Repayment of any loans received after ceasing to be at least a half-time student. For sample repayment schedules see the student loan section of this Bulletin, or contact the Loan Billing and Collections Office of the college.

## WHAT SHOULD A STUDENT DO TO APPLY?

1. Complete the Financial Aid Form (FAF) and mail it, with the required fee, to the College Scholarship Service. To meet the priority deadline, the FAF should be mailed by March 1 prior to the academic school year the student is planning to attend.
2. Complete a Walla Walla College Financial Aid Application (FAA) and return it to Student Financial Services. Priority deadline is April 1.
3. Submit a copy of Income Tax Form 1040, 1040A, or 1040EZ. Students who did not file and do not plan to file an income tax form will need to sign a statement of non-filing. Contact a financial counselor for assistance.
4. All dependent students (and independent students under the age of 24) must submit a copy of their parents' Income Tax Form.
5. For transfer students, Walla Walla College must obtain a Financial Aid Transcript from each postsecondary institution previously attended before an aid award can be offered.

The above deadlines are very important for students wishing to receive a full financial aid package. Students should complete a financial aid form using estimated information if a delay in completing the income tax forms for the current year will result in missing the priority financial aid deadline.

Eligibility for aid is based on individual financial need. After completing, and submitting the FAF form, the College Scholarship Service (CSS) will provide the college with a Needs Analysis for determining the amount of aid to be awarded. A financial aid award letter will be sent after the student has a completed financial aid file. In most cases, a student will be offered a package of financial aid including several forms of assistance.

A detailed copy of the Financial Aid Award Policy can be obtained by contacting Student Financial Services.

Financial Aid Forms are available from academies, high schools, and the Walla Walla College Student Financial Services Office. No aid will be disbursed until all required forms are submitted.

**LATE APPLICATIONS.** Students whose financial aid applications are received after April 1, will be considered for financial aid as funds are available on a first-come, first-served basis.

**NOTE.** A new financial aid application must be submitted each school year. Unless otherwise noted, the financial aid award will be disbursed to the student's account one-third each quarter the student is in full-time attendance for fall, winter, and spring. Funds awarded by Walla Walla College are not transferable to other colleges or universities.

Students who do not supply necessary information for each type of aid will not receive assistance until the information is received. The award will be forfeited if the information is received after the program deadline.

## WHAT GRANTS AND SCHOLARSHIPS ARE AVAILABLE?

### MAXIMUM GRANT:

Up to  
\$2,400 per year  
Renewable

**\*PELL GRANT.** This program is made available to undergraduate students by the Department of Education. To qualify for a full Pell Grant students must be enrolled for at least 12 hours (fewer hours, smaller award) and have need according to a formula established by the Department of Education. Students applying for financial aid will receive a letter of eligibility (several colored sheets of paper) from the Pell Grant processing center. This authorization letter should be reviewed for accuracy, signed, and mailed to WWC.

Up to  
\$2,000 per year  
Renewable

**\*SUPPLEMENTAL EDUCATION OPPORTUNITY GRANT (SEOG).** This grant is made available by the Department of Education. To qualify, a student must be enrolled as a full-time undergraduate student or have petitioned for reduced hours and have financial need. Students receiving this grant must also accept a low interest loan, such as the Perkins loan.

Up to  
\$300 per year

**\*NPUC EMPLOYMENT GRANT.** The North Pacific Union Conference of Seventh-day Adventists and Walla Walla College jointly provide funds for this work-match grant. Applicants must be baptized Seventh-day Adventists having home church membership in the NPUC or having graduated from an academy within the NPUC. Grants are awarded on the basis of need. Matching earnings may be earned on or off campus while students are enrolled from October to May. Students working off campus must provide proof of earnings to the Student Financial Services Office.

Up to  
\$1,000 per year  
Renewable

**\*CARRIE WELCH CHALLENGE GRANT.** This grant was established by the Carrie Welch Trust Estate as a work-match grant for Washington State residents. Grants are awarded on the basis of need. Matching earnings may be earned on or off campus while students are enrolled from October to May. Students working off campus must provide proof of earnings to the Student Financial Services Office. Students must borrow a full Stafford loan in order to receive this grant. In cases of exceptional need, a low interest loan may also be required.

\*Eligible students applying for financial aid will be considered for this program.

Up to  
\$3,300 per year  
Renewable

**\*WALLA WALLA COLLEGE WORK-MATCH GRANT.**

This grant is awarded to the most needy students. Matching earnings may be earned on or off campus while students are enrolled from October to May. Students working off campus must provide proof of earnings to the Student Financial Services Office. Students must borrow a full Stafford loan in order to receive this grant. In cases of exceptional need, a low interest loan may also be required. This grant is available exclusively to students living in college owned housing, or living with parents or in a house they own. The college will consider exceptional circumstances on an individual basis.

\$1,312 per year  
Renewable

**\*WASHINGTON STATE NEED GRANT.** The State of Washington has made available a grant program for Washington state residents with financial need. Residency of dependent students is the same as that of the parents. A student must have lived in the state for one full year prior to the first day of the quarter for which aid is requested. Because of state funding limitations students should meet the priority deadline to be considered for this grant.

Up to  
\$2,000 per year  
Renewable

**CANADIAN WORK-MATCH GRANT.** This grant is made available by Walla Walla College to Canadian students whose support comes from wages earned in Canada. Grants are awarded on the basis of need as evidenced by submission of an application supplied by Walla Walla College. Canadian tax papers are also required. Matching earnings may be earned while students are enrolled from October to May. This grant is available exclusively to students living in college owned housing. The college will consider exceptional circumstances on an individual basis.

\$500-\$1,000  
per year  
Nonrenewable

**†FRESHMAN ACHIEVEMENT AWARD.** Walla Walla College awards a scholarship to entering freshmen who have a high cumulative secondary grade-point average. To validate this award, evidence of grade-point average must be submitted to the Student Financial Services Office from the student's school. GED test scores do not qualify.

|                                  |        |
|----------------------------------|--------|
| 3.50 to 3.74 Grade-point average | \$ 500 |
| 3.75 to 4.00 Grade-point average | 1,000  |

\$1,000-\$1,500  
per year  
Nonrenewable

**†WALLA WALLA COLLEGE MERIT AWARD.** Walla Walla College will award scholarships to entering freshmen who placed in the National Merit Scholarship Competition as follows:

|                   |                             |
|-------------------|-----------------------------|
| Finalist          | See President's Scholarship |
| Semifinalist      | \$ 1,500                    |
| Commended Student | 1,000                       |

\*Eligible students applying for financial aid will be considered for this program  
†Total academic scholarship and Educational subsidy cannot exceed cost of tuition.

Full tuition first  
year  
Renewable for  
half tuition

\$500-\$1500  
per year  
May be renewable

\$500 per year  
Renewable

\$500 per year  
Nonrenewable

\$300 per year  
Nonrenewable

\$600 per year

**†PRESIDENT'S SCHOLARSHIP.** Walla Walla College will award a full tuition scholarship to entering freshmen who are finalists in the National Merit Scholarship Competition. A half tuition award may be received for three additional years provided the student continues to register full time and maintains a 3.50 cumulative grade-point average. Students receive this award in place of the Entering Freshman Achievement Award, ACT scholarship and WWC Merit Award.

**†ACT/SAT ACHIEVEMENT AWARD.** Walla Walla College awards a scholarship to entering freshmen who scored well on the ACT or SAT test. Students scoring 95 percentile or above may renew the scholarship providing their year-end cumulative GPA is 3.50 or above. Student scoring 80-94 percentile receive a non-renewable work-match award.

| Percentile | Amount  | Restrictions      |
|------------|---------|-------------------|
| 97-99      | \$1,500 | Maintain 3.50 GPA |
| 95-96      | 1,000   | Maintain 3.50 GPA |
| 90-94      | 1,000   | Work-match        |
| 80-89      | 500     | Work-match        |

ACT/SAT Achievement Awards will be based on the STANDARD COMPOSITE and TOTAL SCORES for the 1992-93 school year.

**CHURCH MATCH GRANT.** Walla Walla College tries to match the home church's contributions for a student's educational expenses. As funds are available, WWC will match the first \$500 the church sends provided:

1. The funds are donated by the church at large, and not by a relative of the student.
2. The church pastor and treasurer complete and sign a request form, available from the Student Financial Services Office.
3. The student must show need according to the standard U.S. Government formula for financial aid.

**†LEADERSHIP AWARD.** Walla Walla College awards a \$500 nonrenewable scholarship to entering freshmen who served as senior class or student association President. To validate this award, evidence of office held must be submitted to the Student Financial Services Office.

**FRESHMAN RECOGNITION AWARD.** Nominations for this award are made by NPUC academy faculty to outstanding students who want to attend WWC and do not qualify for the leadership or achievement scholarships.

**DEPARTMENTAL MERIT AWARD.** Nominations for this award are made each spring quarter by academic departments and are for the following school year.

\*Eligible students applying for financial aid will be considered for this program

†Total academic scholarship and Educational subsidy cannot exceed cost of tuition.

\$750-\$1,000  
per year

**EMPLOYMENT AWARD.** Walla Walla College distributes a number of awards to students each spring to recognize outstanding work programs. Nominations for awards are made by departments and supervisors, and are for the following school year.

\$300 per year  
Renewable

**DEAN'S AWARD.** This grant is given to continuing students who show excellence in academics. Forty students with the highest cumulative grade-point average at the end of spring quarter are eligible for this award. Students must have been enrolled full-time fall, winter, and spring quarters, and must enroll full-time the following year.

Variable  
Renewable

**BUREAU OF INDIAN AFFAIRS GRANTS.** Students having at least one-fourth American Indian or Eskimo blood may obtain considerable grant assistance from the Bureau of Indian Affairs. For applications and additional information, write to Bureau of Indian Affairs, 1425 N.E. Irving Street, Portland, OR 97208.

Variable

**PUBLISHING HOUSE SCHOLARSHIPS.** Students may earn a portion of their school expenses by selling denominational literature during the summer. These scholarships for full-time students apply to room, cafeteria, tuition and other direct school expenses and are disbursed the first quarter of attendance after receiving the scholarship. For details regarding this scholarship plan, write to the Publishing Secretary of the North Pacific Union Conference, P.O. Box 16677, Portland, OR 97216.

Variable

**YOUTH SERVICE OPPORTUNITIES.** The College, in cooperation with the Youth Department of the North Pacific Union and the local conferences, makes available variable scholarships for full-time students participating in the Youth Services Opportunities Program during the summer. These scholarships are disbursed the first quarter of attendance after receiving the award.

Variable  
Renewable

**WALLA WALLA SYMPHONY SOCIETY.** Scholarships are available to student members of the orchestra for participation and private lesson study. Information and application forms may be obtained from the Walla Walla Symphony Society, P.O. Box 92, Walla Walla, WA 99362.

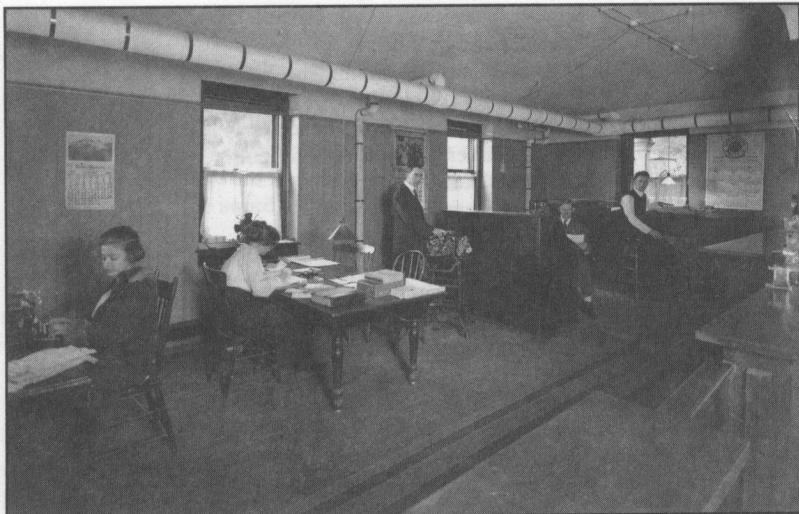
Variable  
Renewable

**GRADUATE ASSISTANTSHIPS.** A few assistantships are available for graduate students in biology, education, and social work. Candidates applying for these assistantships should write to the respective department chairs.

**ADDITIONAL SCHOLARSHIPS.** Additional scholarships are offered as funds are available. The following is a partial list and amounts vary. For further information contact the Student Financial Services Office at Walla Walla College.

Associated Students of Walla Walla College Scholarship  
Breese-Trefz Scholarship  
Business Dept. Chair Award  
Business Scholarship  
C. W. Shankel Chemistry Scholarship  
Carlos Ayala Modern Languages Scholarship  
Chevron Merit Award  
Class of '55 Scholarship  
Class of '65 Scholarship  
Class of '66 Scholarship  
Class of '71 Scholarship  
Class of '78 Scholarship  
Class of '83 Scholarship  
Class of '84 Scholarship  
Class of '89 Edwin Zaugg Scholarship  
Clyde & Mary Harris Grant  
College Days Award  
Communications Drama Award  
Communications Scholarship  
Degering Educational Scholarship  
Deming Worthy Student Employment Award  
Donald W. Rigby Biology Award  
Dr. Anah Wineberg Winton Scholarship  
Edward F. Cross Engineering Scholarship  
Engineering Scholarship  
English Education Award  
English Writer's Award  
EOG Scholarship (Washington State)  
Faculty/Staff Scholarship  
Farmers Insurance Group Scholarship  
George Bowers Chemistry Scholarship  
Graduate Dean's Award  
Honors Program Scholarship  
Jack Miles Memorial Scholarship  
Jenson Math Scholarship  
Jess Hutson Memorial Scholarship  
John E. Bregar Memorial Scholarship  
John V. Jones Foundation Scholarship  
Joseph & Beth Murray Scholarship  
Joseph L. Stubblefield Trust Scholarship  
Karen Gimbel Biology Scholarship  
Lewis Canaday Technology Scholarship  
Lewiston/Clarkston Scholarship  
Lilah Risinger Math Scholarship

Llewellyn and Vivian Nixon Scholarship  
Luella Latham Kretschmar Engineering/Math/Physics  
Scholarship  
Mathematics Scholarship  
Matiko Theology Award  
Messingers/Loewen Scholarship  
Minority Teachers Scholarship  
Nursing Scholarship  
Office Administration Dept. Chair Award  
Oland Hubbs Theology Scholarship  
Orval Patchett Modern Language Scholarship  
Pauline Hart Social Work Scholarship  
Percy W. Christian History Award  
Peterson/Weaver Office Administration Scholarship  
Richard & Dena Hammill Scholarship  
Robert Koorennny Scholarship  
Robert L. Spies Memorial Scholarship  
Rotary Scholarship  
Schlotthauer Math Scholarship  
Springer Engineering Scholarship  
Theology Scholarship  
Tom Rowsell Memorial Scholarship  
UPS Foundation Award  
Vera Hubbs Business Scholarship  
Vivienne Bietz Scholarship  
Walla Walla College Alumni Scholarship  
Washington Automobile Dealers Association Scholarship



Student Financial Services, (Business Office) 1920

## HOW ABOUT A JOB?

A part of the financial aid package awarded to students at Walla Walla College is the opportunity to defray part of the educational expenses through a work program. All students receiving aid are awarded minimum expected earnings of \$1,800.

Walla Walla College offers an on-campus work program. During fall, winter, and spring quarters, all students residing in college housing (dorms, married student housing, etc.) are guaranteed as much work as they want up to 20 hours per week if:

1. They are enrolled for at least 12 hours of classes on the College Place campus.
2. They work with the Student Employment Coordinator in obtaining a job.
3. Their class schedule allows for a reasonable work program.
4. They perform satisfactory work when a job is obtained.

Applications for work are available at the Student Financial Services Office and at the various departments and industries on campus. While the completed application provides information for campus employers as they look for student help, it does not guarantee a specific job. A list of the major on-campus employers is available from the Student Employment Coordinator.

Since students are not assigned a job by Walla Walla College, most new students finalize on their employment after arriving on campus. Many employers will need to see the student's class schedule before hiring. Students who wish to contact particular departments earlier are encouraged to do so. Students unable to find a job on their own should contact the Student Employment Coordinator for assistance.

Wage rates start at minimum wage and increase depending on skills, ability, job requirements, and length of employment. Earnings from campus jobs will be credited directly to the student's account. Workers may arrange to have tithe deducted directly from the earnings. All students working on campus are covered by workman's compensation.

Most students work 10 to 15 hours per week. Students planning to work more than 20 hours per week should get permission from the Student Employment Coordinator. In general, students find that three- to four-hour blocks of time are ideal for their work schedules.

Foreign students who attend Walla Walla College while on student visas are permitted to work on campus only. Student visas do not entitle students to take off-campus jobs in the community.

The responsibility for taking advantage of work opportunities rests with the student. For further information on job placement contact the Student Employment Coordinator.

Federal regulations require that all employees hired present ORIGINAL documents that establish both their identity and eligibility to work. All students wishing to work on the Walla Walla College campus will be required to present documents before they will be authorized to begin work.

Employees must present either one item from list A or one item each from lists B and C.

#### LIST A

- United States Passport
- Certificate of United States Citizenship
- Unexpired foreign passport with attached employment authorization (WWC will accept a student visa)
- Alien Registration Card with photograph

#### LIST B

- A State issued driver's license or ID card with a photograph or information including name, sex, date of birth, height, weight and color of eyes
- U.S. Military Card

#### LIST C

- Original Social Security card (other than a card stating it is not valid for employment)
- A birth certificate issued by state, county or municipal authority bearing a seal or other certification
- Unexpired INS Employment Authorization

**FEDERAL WORK-STUDY PROGRAM.** The federal government awards Walla Walla College money to expand student employment opportunities both on campus and in the community. Positions available on campus or with non-profit agencies off campus include clerical, library assistants, teacher's aides, custodial work, and many other jobs. Students must have a completed financial aid file before they will be eligible for this program. The students are paid once a month. This is not a work-match program and hourly rate of pay is not affected.

**WASHINGTON STATE WORK-STUDY PROGRAM.** The state of Washington awards Walla Walla College money to expand student employment opportunities off campus. Students must have a completed financial aid file before they will be eligible for this program, and perform work related to their major. Employers pay the student directly with the state reimbursing the employer for a portion of the labor costs. Students should contact the Work-Study Coordinator for more information on this program.

### WHAT ABOUT A LOAN?

An increasing number of students are financing their education through loan funds. Several of these funds are available, making it possible for the great majority of students to continue school without interruption due to lack of finances.

#### MAXIMUM LOAN:

Up to \$2,250  
per year  
Renewable

**\*PERKINS/NATIONAL DIRECT STUDENT LOAN.** This loan is made available jointly by the U.S. Department of Education and Walla Walla College. Students may borrow up to \$4,500 during their first two academic years and no more than \$9,000 during the entire undergraduate period of study. Repayment begins six to nine months after the borrower ceases to be enrolled at least half-time. Repayment may be extended up to ten years with an interest rate of 5%.

Up to  
\$4,000 per year  
Renewable

\***NURSING STUDENT LOAN (NSL).** This loan is made available by the federal government and Walla Walla College. Only nursing students are eligible to apply for this loan. Students may borrow up to \$2,500 per year, (\$4,000 per year their last two years) but no more than \$13,000 during their undergraduate period of study. Repayment of the NSL begins nine months after the borrower ceases to be at least a half-time nursing student. The repayment period may be extended up to ten years with an interest rate of 5%. Repayment may be deferred if the student enrolls for graduate nursing studies.

Up to \$2,250  
per year  
Renewable

\***ADDITIONAL LOANS.** Through the generous gifts of friends of the College various loan funds have been established. Repayment begins nine months after the applicant's student status terminates. Loan terms are similar to the Perkins/NDSL Loan Program.

Up to  
\$4,000 per year  
Renewable

\***STAFFORD GUARANTEED STUDENT LOAN PROGRAM.** This program allows a student to borrow directly from commercial lenders and credit unions. These loans are available to students who are citizens or nationals of the United States, or those in the country for other than a temporary purpose. These loans, which have an annual interest rate of 7% to 10%, do not have to be repaid until six months after student status has terminated.

| Category of Borrower     | Annual | Aggregate | Loan Limits | Loan Limits |
|--------------------------|--------|-----------|-------------|-------------|
| Freshman or Sophomore    |        |           | \$2,625     | \$ 5,250    |
| Junior or Senior         |        |           | 4,000       | 17,250      |
| Graduate or Professional |        |           | 7,500       | 54,750      |

Eligibility is based on individual financial need determined by applying for financial aid. After eligibility is determined, a student must complete a separate application form.

Loan initiation and guarantee insurance fees of about 8% are deducted from the loan amount before the check is issued to WWC.

Most states now have their own programs. Interested applicants may obtain further information and application forms from their banks in their home states or by writing the Walla Walla College Student Loan Coordinator.

Up to  
\$4,000 per year  
Renewable

**SUPPLEMENTAL LOANS FOR STUDENTS PROGRAM (SLSP).** These are available to graduate students and to independent undergraduate students. The borrowing limit is \$4,000 per year, with an aggregate limit of \$20,000. This is in addition to any Stafford loan the student may borrow. The interest rate is at a variable rate, but will not exceed 12%. Applications and more information are available from the Walla Walla College Student Loan Coordinator.

\*Eligible students applying for financial aid will be considered for this program

Up to  
\$4,000 per year  
Renewable

**LOANS TO PARENTS (PLUS).** This program allows parents of dependent undergraduate students to borrow directly from commercial banks and credit unions. The maximum amount a parent may borrow for any one student in any academic year is \$4,000. The aggregate loan limit for each dependent student is \$20,000. Repayment usually begins within sixty days after disbursement; principal payments may be deferred while the student is enrolled. The interest rate is at a variable rate, but may not exceed 12%. Applications and more information are available from the Walla Walla College Student Loan Coordinator.

Up to  
\$10,000 per year  
Renewable

**PRIVATE RESOURCE EDUCATION PROGRAM (PREP).** PREP is a privately sponsored loan program that helps students and their families finance higher education costs. This program is often used by students and parents who are not eligible to borrow under the Stafford loan program. Interest is dependent upon market conditions at the time the loan is taken out. Principal and most interest payments are postponed while the student is in school. Loan payments may be made over a period of up to ten years.

## SAMPLE LOAN PAYMENTS

| Interest Rate   | Perkins &<br>Institutional<br>Loans | Nursing<br>Student<br>Loan | Stafford Loan |     |     |     |
|-----------------|-------------------------------------|----------------------------|---------------|-----|-----|-----|
|                 | 5%                                  | 5%                         | 7%            | 8%  | 9%  | 10% |
| Loan<br>Balance |                                     |                            |               |     |     |     |
| \$1,000         | 30                                  | 15                         | 50            | 50  | 50  | 50  |
| 2,000           | 30                                  | 25                         | 50            | 50  | 50  | 50  |
| 3,000           | 35                                  | 35                         | 50            | 50  | 50  | 50  |
| 4,000           | 45                                  | 45                         | 50            | 50  | 55  | 55  |
| 5,000           | 55                                  | 55                         | 50            | 65  | 65  | 70  |
| 6,000           | 65                                  | 65                         | 70            | 75  | 80  | 80  |
| 7,000           | 75                                  | 75                         | 85            | 85  | 90  | 95  |
| 8,000           | 85                                  | 85                         | 95            | 100 | 105 | 110 |
| 9,000           | 100                                 | 100                        | 105           | 110 | 115 | 120 |
| 10,000          | 110                                 | 110                        | 120           | 125 | 130 | 135 |
| 15,000          | 160                                 | 160                        | 175           | 185 | 195 | 200 |

## ADDITIONAL INFORMATION:

If you would like more detailed financial information write or phone Student Financial Services Office.

# WALLA WALLA COLLEGE BOARD OF TRUSTEES

Bruce Johnston, Chairman  
Niels-Erik Andreasen, Secretary

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## ADMINISTRATION

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Manford Simcock, M.A., Vice President for Financial Administration  
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Melvin S. Lang, Ph. D., Associate Academic Dean  
Walter Meske, M.A., Special Assistant to the President

## ADMINISTRATIVE STAFF

### ACADEMIC ADMINISTRATION

Chair, Department of Art, Thomas J. Emmerson, M.F.A.  
Chair, Department of Biology, Susan C. Dixon, Ph.D.  
Chair, Department of Business, Robert C. Schwab, Ph.D.  
Chair, Department of Chemistry, Steven Lee, Ph.D.  
Chair, Department of Communications, Loren Dickinson, Ph.D.  
Chair, Department of Computer Science, C. Michael Bell, M.S.E.E.  
Chair, Department of Education and Psychology, Merle Greenway, Ed.D.  
Chair, Department of English, Beverly G. Beem, Ph.D.  
Chair, Department of Health, Physical Education, and Recreation,  
    Gary M. Hamburg, Ph.D.  
Chair, Department of History, Roland D. Blaich, Ph.D.  
Chair, Department of Library Science, Carolyn Gaskell, M.A.  
Chair, Department of Mathematics, Thomas M. Thompson, Ph.D.  
Chair, Department of Modern Languages, Reinhard Czeratzki, M.A.  
Chair, Department of Music, Dan M. Shultz, M.Mus.  
Chair, Department of Office Administration, JoAnn Wiggins, Ph.D.  
Chair, Department of Physics, Gordon O. Johnson, Ph.D.  
Chair, Department of Social Work and Sociology, Wilma M. Hepker, Ph.D.

Chair, Department of Technology, Dale Visger, Ed.D.  
Dean, School of Engineering, Rodney Heisler, Ph.D.  
Dean, School of Graduate Studies, Gerry Colvin, Ed.D., Ph.D.  
Dean, School of Nursing, Frances L. Fickess, D.N.Sc.  
Assistant Dean, School of Nursing, Carol Brown, Ph.D.  
Dean, School of Theology, Douglas R. Clark, Ph.D.

### **ACADEMIC SUPPORT**

Director, Technical Services Shop, James Forsyth, M.A.  
Director, Teaching Learning Center, Dale Hepker, Ph.D.  
Director of Career Development and Cooperative Education,  
Director of Academic Advisement, Betty Duncan, B.A.  
Director of Libraries, Carolyn Gaskell, M.A.  
Director of Marine Station, Larry McCloskey, Ph.D.  
Director of Records, \_\_\_\_\_  
Director of Summer Session, Melvin S. Lang, Ph.D.  
Manager, KGTS Station, Kevin Krueger, B.A.

### **COLLEGE ADVANCEMENT AND MARKETING**

Director, Alumni, \_\_\_\_\_  
Director, Development, Allan Fisher, Ed.D.  
Director, College Relations, Stephen Payne, B.A.

### **FINANCIAL ADMINISTRATION**

Controller and Assistant Treasurer, James Hall, M.B.A.  
Director of Campus Computer Center, C. Michael Bell, M.S.E.E.  
Director of Buildings and Grounds, Daryl Burghart  
Director of Personnel Services, Carolyn Dickinson, B.S.  
Director of Student Financial Services, Cassie Ragenovich, B.S.

### **AUXILIARY**

Manager, College Bookstore, Barbara Bigger, M.A.  
Manager, Rental Properties, William Adams

### **WESTWIND DIVERSIFIED**

President, Manford Simcock, M.A.  
College Dairy, Darral Payne, M.A.  
Dairy Express  
The Scoop  
Westwind Travel  
College Farm, Larry Adams, M.A.  
Color Press, Harold Kehney, B.S.B.A.

### **STUDENT SERVICES**

Chaplain, John Cress, M.Div.  
Consulting Physician, A. D. Selfa, M.D.  
Dean of Men, Dwight Magers.  
Dean of Women, Ilo Hare  
Director of Counseling Services, Karen MacIvor, M.Ed.  
Director of Food Service, Shirley Messinger  
Director of Health Services, \_\_\_\_\_  
Residence Hall Dean (Portland Campus), Carol Pifer

## INSTRUCTIONAL FACULTY†

Larry Aamodt, *Assistant Professor of Engineering/Computer Science (1983-87; 1989)*

B.S. 1976, Walla Walla College  
M.S.E.E. 1990, Washington State University

Terrie Dopp Aamodt, *Professor of English and History (1979)*

B.A. 1976, Columbia Union College  
M.A. 1978, The College of William and Mary  
Ph.D. 1986, Boston University

Norman Anderson, *Associate Professor of Accounting (1987)*

B.S. 1971, Henderson State College  
C.P.A. 1973, State of California  
J.D. 1976, Southern Methodist University

Niels-Erik Andreasen, *Professor of Biblical Studies (1990)*

B.A. 1963, Newbold College  
M.A. 1965; B.D. 1966, Andrews University  
Ph.D. 1971, Vanderbilt University

Austin C. Archer, *Assistant Professor of Education and Psychology (1991)*

B.S. 1980; M.A. 1984, Andrews University

Cindee M. Bailey, *Assistant Professor of Social Work (1991)*

B.S.N. 1980; M.P.H. 1982, Loma Linda University  
Ph.D. 1987, Oregon State University

Roger M. Baltrusch, *Assistant Professor of Engineering (1985)*

B.S.E. 1959, Walla Walla College  
M.S.M.E. 1969, University of Southern California  
D.D.S. 1975, Loma Linda University

Claude C. Barnett, *Professor of Physics (1957)*

B.S. 1952, Walla Walla College  
M.S. 1956, State College of Washington  
Ph.D. 1960, Washington State University

Cleona Bazzi, *Assistant Professor of Education (1984)*

B.S. 1961, Pacific Union College  
M.A. 1980, Loma Linda University

Beverly G. Beem, *Professor of English (1976)*

B.A. 1967, Union College  
M.A. 1969, Andrews University  
Ph.D. 1974, University of Nebraska

C. Michael Bell, *Assistant Professor of Computer Science (1984)*

B.S.E. 1980, Walla Walla College  
M.S.E.E. 1984, Stanford University

Frederick R. Bennett, *Professor of Engineering (1961)*

B.S. 1955, Walla Walla College  
M.S. 1966; Ph.D. 1977, Washington State University

Hermas J. Bergman, *Professor of History (1985)*

B.A. 1948, Walla Walla College  
M.A. 1963, University of Puget Sound  
Ph.D. 1967, Washington State University

†Dates in parenthesis indicate the beginning year of employment at Walla Walla College.

Roland D. Blaich, *Professor of History* (1968)  
B.A. 1966; M.A. 1967, California State College at Los Angeles  
Ph.D. 1975, Washington State University

Chester D. Blake, *Professor of Technology* (1966)  
B.S. 1963, Walla Walla College  
M.A. 1968, San Jose State College  
Ed.D. 1980, Washington State University

\*R. Gary Brendel, *Professor of Education and Psychology* (1980)  
B.A. 1966, Union College  
M.A. 1969, Ed.D. 1985, University of Denver

Carol M. Brown, *Professor of Nursing* (1971-73; 1976-79; 1980)  
B.S. 1965, Walla Walla College  
M.S. 1968, Loma Linda University  
Ed.M. 1975; Ph.D. 1978, Oregon State University

Michael E. Brown, *Assistant Professor of Chemistry* (1989)  
B.S. 1979, Columbia Union College  
Ph.D. 1987, Loma Linda University

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M.A. 1966; B.D. 1967, Andrews University  
Ph.D. 1978, Emory University

Michael Buck, *Assistant Professor of Accounting* (1987)  
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M.B.A. 1984, University of Nebraska  
C.P.A. 1987, State of Nebraska

David Bullock, *Assistant Professor of Communications* (1984)  
B.A. 1976, Walla Walla College  
M.A. 1985, Washington State University

Ernest J. Bursey, *Associate Professor of Biblical Studies* (1973)  
B.A. 1964, Pacific Union College  
M.Div. 1971, Andrews University  
M.A. 1978; M.Phil 1980, Yale University

Launa R. Cafferky, *Assistant Professor of Nursing* (1990)  
B.S. 1976, Loma Linda University  
M.S. 1988, Oregon Health Sciences University

\*Linda M. Casebolt, *Assistant Professor of Nursing* (1986)  
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M.S. 1987, Oregon Health Sciences University

Kim Liang (Sam) Chuah, *Assistant Professor of Business* (1991)  
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B.A. 1970, Walla Walla College  
M.Div. 1974, Andrews University  
Ph.D. 1984, Vanderbilt University

Nancy A. Cleveland, *Assistant Professor of Office Administration* (1987)  
B.S. 1976; M.Ed. 1978, Walla Walla College

\*On Leave

Jon A. Cole, *Professor of Engineering* (1964)  
B.S.C.E. 1961, Illinois Institute of Technology  
M.S. 1964; Ph.D. 1970, University of Wisconsin

Gerry Colvin, *Professor of Education and Psychology* (1989)  
B.A. 1961, Union College  
M.Ed. 1967; Ed.D. 1968, University of Arkansas  
Ph.D. 1980, University of Georgia

Mark J. Copsey, *Assistant Librarian, Level II* (1984)  
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A.M.L.S. 1983, University of Michigan

Carlton E. Cross, *Professor of Engineering* (1981)  
B.S.E. 1966, Walla Walla College  
M.S.E.E. 1969; Ph.D. 1973, Oregon State University

Nancy Cross, *Assistant Professor of English* (1989)  
B.A. 1966, Walla Walla College  
M.A. 1970, University of Oregon

Reinhard Czeratzki, *Associate Professor of Modern Languages* (1967)  
B.A. 1964, Atlantic Union College  
M.A. 1967, Middlebury College

Richard F. Daley, *Associate Professor of Chemistry* (1988)  
B.S. 1970, Southern Adventist College  
M.S. 1973, University of Tennessee  
Ph.D. 1976, Emory University

Donald Dawes, *Associate Professor of Technology* (1976)  
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M.Ed. 1966, Oregon State University

Loren Dickinson, *Professor of Communications* (1962)  
B.A. 1957, Union College  
M.A. 1960, University of Nebraska  
Ph.D. 1968, University of Denver

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Ph.D. 1990, Oregon State University

Thomas J. Emmerson, *Professor of Art* (1976)  
B.A. 1972, Walla Walla College  
B.F.A. 1974; M.F.A. 1979, Otis Art Institute of Los Angeles County

Karl F. Feigner, *Assistant Professor of Engineering* (1989)  
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D.N.Sc. 1976, The Catholic University of America

Allan D. Fisher, *Professor of Technology* (1980)  
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Ed.D. 1980, Oregon State University

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M.S.E.E. 1984; Ph.D. 1988, Purdue University

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B.A. 1976, Pacific Union College  
M.A. 1977, University of Denver

Standley L. Gellineau, *Professor of Social Work* (1987)  
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# Index

## A

|                                                  |         |
|--------------------------------------------------|---------|
| Academic Advisement                              | 38      |
| Academic Information                             | 48      |
| Academic Probation                               | 52      |
| Academic Programs & Graduation Requirements      | 59      |
| Acceptance Letter                                | 43      |
| Accident Insurance                               | 255     |
| Accredited Colleges                              | 47      |
| Administration                                   | 271     |
| Administrative Staff                             | 271     |
| Admission by Examination                         | 46      |
| Admission of International Students              | 46      |
| Admission of Transfer Students                   | 47      |
| Admission Procedure                              | 43      |
| Admission Requirements                           | 44      |
| Admission Status                                 | 44      |
| Admission to the College                         | 43      |
| Admission to Upper Division Courses              | 49      |
| Adventist Colleges Abroad                        | 58      |
| Anthropology                                     | 227     |
| Apartments                                       | 38      |
| Application Fee                                  | 43, 255 |
| Applied Music Credit Toward Baccalaureate Degree | 62      |
| Architecture                                     | 205     |
| Areas of General Studies                         | 63      |
| Art                                              | 76      |
| Art Major                                        | 76      |
| Art Minor                                        | 77      |
| Assistantships                                   | 264     |
| Associate Degree Requirements                    | 71      |
| Associated Students                              | 37      |
| Athletic Program                                 | 37      |
| Auditing Classes                                 | 255     |
| Auditing Classes                                 | 49      |
| Automotive Courses                               | 241     |
| Advanced Placement Examination                   | 55      |
| Aviation Courses                                 | 242     |
| Aviation Minor                                   | 240     |

## B

|                                                       |     |
|-------------------------------------------------------|-----|
| Baccalaureate Degree Requirements                     | 60  |
| Baccalaureate Degrees                                 | 59  |
| Bachelor of Arts Degree                               | 59  |
| Bachelor of Music Degree                              | 60  |
| Bachelor of Science Degree                            | 60  |
| Bachelor of Science in Business Administration Degree | 60  |
| Bachelor of Science in Business Administration        | 85  |
| Bachelor of Science in Engineering Degree             | 60  |
| Bachelor of Social Work Degree                        | 60  |
| Biblical Languages Courses                            | 224 |
| Biblical Languages Major                              | 216 |
| Biblical Languages Minor                              | 218 |
| Bioengineering Major                                  | 130 |

|                                       |         |
|---------------------------------------|---------|
| Biological Sciences                   | 79      |
| Biology Major                         | 79      |
| Biology Minor                         | 80      |
| Biophysics Major                      | 80, 158 |
| Board of Trustees                     | 271     |
| Books and School Supplies             | 253     |
| Business                              | 84      |
| Business Administration Major         | 87      |
| Business Education Major              | 195     |
| Business Minor                        | 88      |
| Business, Associate of Science Degree | 88      |

## C

|                                                |             |
|------------------------------------------------|-------------|
| Cafeteria Costs                                | 253         |
| California High School Proficiency Examination | 46          |
| Campus Clubs                                   | 37          |
| Campus Computer Center                         | 39          |
| Campus Ministries                              | 36          |
| Campus Computer Center                         | 39          |
| Candidacy for Degree                           | 62          |
| Career Course                                  | 186         |
| Career Development Center                      | 39          |
| Career Development Services                    | 39          |
| CEEB                                           | 55          |
| Certificate Programs                           | 73          |
| Certification                                  | 117         |
| Challenge Examinations                         | 54          |
| Chapel Attendance                              | 36          |
| Chapel Attendance                              | 36          |
| Chemistry                                      | 96          |
| Chiropractic                                   | 206         |
| Church and Sabbath School                      | 36          |
| Class Attendance                               | 53          |
| Classification of Students                     | 50          |
| CLEP                                           | 55          |
| College Campus, The                            | 12          |
| College Entrance Examination                   | 44          |
| College Presidents                             | 17          |
| College Writing Courses                        | 138         |
| College-Level Examination Program              | 55          |
| Communications                                 | 100         |
| Computer Programming (Associate of Science)    | 109         |
| Computer Science                               | 107         |
| Computer Science Courses                       | 110, 131    |
| Computer Science Minor                         | 109         |
| Community College Credit                       | 47          |
| Concurrent Registration                        | 49          |
| Cooperative Education                          | 39, 75, 186 |
| Correspondence Work                            | 56          |
| Correspondence Work for Seniors                | 56          |
| Counseling Service                             | 40          |
| Course Load                                    | 49          |
| Course Numbering Guidelines                    | 74          |
| Course Waiver Examinations                     | 56          |
| Credit by Examination                          | 54          |
| Credit/No-Credit Grading                       | 51          |
| Cum Laude                                      | 54          |

|                                                                    |          |
|--------------------------------------------------------------------|----------|
| <b>D</b>                                                           |          |
| Dean's List . . . . .                                              | 54       |
| Degree, Candidacy for . . . . .                                    | 62       |
| Degrees, when Conferred . . . . .                                  | 61       |
| Denominational Certification . . . . .                             | 117      |
| Dental Hygiene . . . . .                                           | 206      |
| Dentistry . . . . .                                                | 206      |
| Deposit for Room . . . . .                                         | 43       |
| Discounts . . . . .                                                | 251      |
| Drafting Courses . . . . .                                         | 243      |
| <b>E</b>                                                           |          |
| Early Childhood Education Associate Degree . . . . .               | 116      |
| Economics Minor . . . . .                                          | 89       |
| Education and Psychology . . . . .                                 | 113      |
| Education Minor . . . . .                                          | 117      |
| Electronics Courses . . . . .                                      | 243      |
| Elementary Education Major . . . . .                               | 113      |
| Employment . . . . .                                               | 267      |
| Engineering . . . . .                                              | 125      |
| Engineering Core Requirements . . . . .                            | 127      |
| Engineering Transfer Students . . . . .                            | 47       |
| English . . . . .                                                  | 137      |
| English Major . . . . .                                            | 137      |
| English Minor . . . . .                                            | 138      |
| Entrance Examination . . . . .                                     | 44       |
| Entrance Requirements for Chosen Curriculums . . . . .             | 45       |
| Environment and Man Course . . . . .                               | 136, 228 |
| Errors & Corrections in Grades . . . . .                           | 51       |
| Explanation of Credits . . . . .                                   | 74       |
| Extension Course Work . . . . .                                    | 57       |
| <b>F</b>                                                           |          |
| Family Tuition Discount . . . . .                                  | 251      |
| Field Work/Practicum/Experience . . . . .                          | 75       |
| Final Examinations . . . . .                                       | 53       |
| Financial Aid . . . . .                                            | 259      |
| Financial Information . . . . .                                    | 249      |
| Financial Statements . . . . .                                     | 257      |
| Foreign Student Admission . . . . .                                | 46       |
| Foreign Student Deposit . . . . .                                  | 46, 258  |
| French Major . . . . .                                             | 172      |
| French Minor . . . . .                                             | 174      |
| Freshman Achievement Award . . . . .                               | 262      |
| Freshman Orientation . . . . .                                     | 48       |
| Freshman Standing . . . . .                                        | 50       |
| <b>G</b>                                                           |          |
| General . . . . .                                                  | 187      |
| General Requirements for Graduation . . . . .                      | 61       |
| General Requirements for the Associate Degree . . . . .            | 71       |
| General Studies Honors Program . . . . .                           | 69       |
| General Studies Quarter Hour Requirements . . . . .                | 63       |
| General Studies Requirements for the Associate Degree . . . . .    | 72       |
| General Studies Requirements for the Certificate Program . . . . . | 73       |
| German Major . . . . .                                             | 173      |
| German Minor . . . . .                                             | 174      |

|                                                      |         |
|------------------------------------------------------|---------|
| Grading Regulations                                  | 51      |
| Grading System                                       | 50      |
| Graduate Admission                                   | 49      |
| Graduate Assistantships                              | 264     |
| Graduate Degrees                                     | 59      |
| Graduate Record Examination                          | 62      |
| Graduate Standing                                    | 50      |
| Graduation Requirements for the Associate Degree     | 71      |
| Graduation Requirements for the Baccalaureate Degree | 60      |
| Graduation with Honors                               | 54      |
| Grants, Assistantships, and Scholarships             | 261     |
| Graphic Arts Minor                                   | 240     |
| Graphics Courses                                     | 245     |
| Guest Admission                                      | 46      |
| <b>H</b>                                             |         |
| Health Center                                        | 41      |
| Health Minor                                         | 147     |
| Health Science Major                                 | 143     |
| Health, Physical Education, and Recreation           | 143     |
| Hebrew                                               | 224     |
| High School Equivalency                              | 46      |
| History Major                                        | 152     |
| History Minor                                        | 152     |
| Home Economics                                       | 157     |
| Honors Program                                       | 69      |
| Housing for Students                                 | 37      |
| Humanities                                           | 159     |
| Humanities Major                                     | 159     |
| <b>I</b>                                             |         |
| Incomplete                                           | 51      |
| Insurance Accident and Hospitalization               | 255     |
| Insured Tuition Payment Plans                        | 251     |
| Interdisciplinary Programs                           | 158     |
| International Students                               | 46, 258 |
| <b>J</b>                                             |         |
| Japanese Minor                                       | 175     |
| Journalism Courses                                   | 104     |
| Journalism Minor                                     | 102     |
| Junior Standing                                      | 50      |
| <b>K</b>                                             |         |
| KGTS                                                 | 41      |
| <b>L</b>                                             |         |
| Laboratory Fees                                      | 254     |
| Late Registration                                    | 48      |
| Law                                                  | 207     |
| Learning Center                                      | 42      |
| Letter of Acceptance                                 | 43      |
| Library Science                                      | 165     |
| Library Science Minor                                | 165     |
| Library, Peterson Memorial                           | 41      |
| Loans                                                | 268     |

## M

|                                                         |        |
|---------------------------------------------------------|--------|
| Marine Station . . . . .                                | 12, 83 |
| Mass Communication Major . . . . .                      | 100    |
| Mathematics . . . . .                                   | 167    |
| Mathematics Major . . . . .                             | 167    |
| Mathematics Minor . . . . .                             | 169    |
| Medical Information . . . . .                           | 44     |
| Medical Technology & Clinical Chemistry Major . . . . . | 163    |
| Medical Technology Major . . . . .                      | 162    |
| Medicine . . . . .                                      | 207    |
| Modern Languages . . . . .                              | 172    |
| Music . . . . .                                         | 177    |
| Music Education Degree Program . . . . .                | 177    |
| Music Fees . . . . .                                    | 253    |
| Music Major . . . . .                                   | 180    |
| Music Minor . . . . .                                   | 181    |
| Music Performance Degree Program . . . . .              | 179    |

## N

|                                     |        |
|-------------------------------------|--------|
| Nondepartmental . . . . .           | 186    |
| Nonmatriculated Admission . . . . . | 46, 50 |
| Nursing . . . . .                   | 188    |
| Nursing Major . . . . .             | 190    |

## O

|                                                  |     |
|--------------------------------------------------|-----|
| Objectives for General Studies Program . . . . . | 62  |
| Occupational Therapy . . . . .                   | 209 |
| Office Administration . . . . .                  | 194 |
| Office Administration Major . . . . .            | 194 |
| Office Administration Minor . . . . .            | 197 |
| Official Transcripts . . . . .                   | 43  |
| Optometry . . . . .                              | 209 |
| Orientation, Freshman . . . . .                  | 48  |
| Osteopathy . . . . .                             | 210 |
| Our Heritage . . . . .                           | 13  |
| Our Mission . . . . .                            | 11  |

## P

|                                      |         |
|--------------------------------------|---------|
| Past Due Accounts . . . . .          | 258     |
| Payment Plans . . . . .              | 250     |
| Personal Property Loss . . . . .     | 258     |
| Pharmacy . . . . .                   | 210     |
| Philosophy Minor . . . . .           | 186     |
| Photography Courses . . . . .        | 246     |
| Physical Activity Courses . . . . .  | 149     |
| Physical Education Fees . . . . .    | 254     |
| Physical Education Major . . . . .   | 144     |
| Physical Education Minor . . . . .   | 147     |
| Physical Therapy . . . . .           | 211     |
| Physics . . . . .                    | 200     |
| Physics Major . . . . .              | 200-201 |
| Physics Minor . . . . .              | 202     |
| Placement Services . . . . .         | 40      |
| Political Science Minor . . . . .    | 153     |
| Political Sciences Courses . . . . . | 156     |
| Postgraduate Standing . . . . .      | 50      |
| Predentistry . . . . .               | 206     |

|                                                           |         |
|-----------------------------------------------------------|---------|
| Prelaw . . . . .                                          | 207     |
| Premedicine . . . . .                                     | 207     |
| Preoptometry . . . . .                                    | 209     |
| Preosteopathy . . . . .                                   | 210     |
| Preprofessional Programs . . . . .                        | 73, 205 |
| Presidents . . . . .                                      | 17      |
| Provisional Admission . . . . .                           | 45      |
| Psychology Major . . . . .                                | 118     |
| Psychology Minor . . . . .                                | 119     |
| Public Health . . . . .                                   | 212     |
| Public Information . . . . .                              | 42      |
| <br>Q                                                     |         |
| Quarter Hour Formula . . . . .                            | 49      |
| <br>R                                                     |         |
| Radiological Technology . . . . .                         | 212     |
| Reading Courses . . . . .                                 | 187     |
| Refunds . . . . .                                         | 256     |
| Registered Nurse Students . . . . .                       | 188     |
| Registration . . . . .                                    | 48      |
| Release of Student Information . . . . .                  | 42      |
| Release of Transcripts or Degrees . . . . .               | 258     |
| Religion . . . . .                                        | 216     |
| Religion Major . . . . .                                  | 217     |
| Religion Minor . . . . .                                  | 218     |
| Religion Requirements for Transfer Students . . . . .     | 65      |
| Religious Activities . . . . .                            | 36      |
| Repeat Courses . . . . .                                  | 56      |
| Residence Hall Expenses . . . . .                         | 252     |
| Residence Halls . . . . .                                 | 37      |
| Residence Requirements for the Associate Degree . . . . . | 71      |
| Respiratory Therapy . . . . .                             | 213     |
| Room Deposit . . . . .                                    | 43      |
| Room Rent . . . . .                                       | 252     |
| Room Rent Refund . . . . .                                | 257     |
| Room Reservations . . . . .                               | 252     |
| <br>S                                                     |         |
| Sabbath Observance . . . . .                              | 36      |
| Scholarships, Assistantships, and Grants . . . . .        | 261     |
| Second Baccalaureate Degree . . . . .                     | 62      |
| Secretarial Program, Associate of Science . . . . .       | 196     |
| Senior Citizen Discount . . . . .                         | 252     |
| Senior Class Membership . . . . .                         | 62      |
| Senior Standing . . . . .                                 | 50      |
| Senior Transfer Students . . . . .                        | 47      |
| Social Work and Sociology . . . . .                       | 225     |
| Social Work Degree Program . . . . .                      | 225     |
| Social Work Minor . . . . .                               | 227     |
| Sociology Major . . . . .                                 | 226     |
| Sociology Minor . . . . .                                 | 227     |
| Sophomore Standing . . . . .                              | 50      |
| Spanish Major . . . . .                                   | 173     |
| Special Admission . . . . .                               | 46      |
| Special Education Minor . . . . .                         | 117     |
| Special Fees . . . . .                                    | 255     |

|                                          |          |
|------------------------------------------|----------|
| Special Standing (nonarticulated)        | 46       |
| Special Standing (nonmatriculated)       | 50       |
| Specific Courses for General Studies     | 66       |
| Speech Communication Major               | 101      |
| Speech Communication Minor               | 102      |
| Speech-Language Pathology and Audiology  | 214      |
| Student Assistance Program               | 40       |
| Student Association Fee                  | 252, 257 |
| Student Handbook                         | 42       |
| Student Health Center                    | 41       |
| Student Life                             | 36       |
| Student Organizations                    | 37       |
| Student Rights and Responsibilities      | 42       |
| Student Services                         | 38       |
| Study Load                               | 49       |
| <br><b>T</b>                             |          |
| Teacher Education Program                | 59       |
| Teaching Learning Center                 | 42, 187  |
| Technology                               | 232      |
| Technology Courses                       | 246      |
| Technology Major                         | 233      |
| Technology Minor                         | 241      |
| Technology, Associate of Science Degree  | 237      |
| Technology, Certificate Programs         | 238      |
| Testing Service                          | 40       |
| Theology Major                           | 217      |
| TOEFL                                    | 46       |
| Transcripts                              | 53       |
| Transfer Credit by Examination           | 56       |
| Transfer Students                        | 47       |
| Transitional Curriculum                  | 73       |
| Tuition                                  | 251, 256 |
| <br><b>U</b>                             |          |
| Undergraduate Degrees                    | 59       |
| Uniform Course Numbers                   | 74       |
| Upper Division Courses                   | 49       |
| <br><b>V</b>                             |          |
| Validation Examinations                  | 56       |
| Veterinary Science                       | 215      |
| <br><b>W</b>                             |          |
| Waiver Examinations                      | 56       |
| Withdrawal                               | 51       |
| Workshops                                | 75       |
| Worships                                 | 36       |
| <br><b>Y</b>                             |          |
| Youth Service Opportunities Scholarships | 264      |

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